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JOURNAL

of the Canadian Dental Association
de l'Association dentaire canadienne

Jan. 1970/Volume 36/No. 1



Dentistry in the Ontario
Science Centre

La dentisterie au Centre
des sciences de l'Ontario



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JOURNAL

Editor/F. H. Compton, DDS

Rédacteur adjoint/M. P. Tenenbaum, DDS

Managing Director/W. G. McIntosh, DDS

of the Canadian Dental Association

de l'Association dentaire canadienne

January/Janvier, 1970 Volume 36/No.1

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Canadian Dental Association

1970 Winnipeg, July 1-4
1971 Ottawa, Sept. 30-Oct. 2

Fédération Dentaire Internationale

1970 Bucharest, Rumania, Sept. 26-Oct. 1
1971 Munich, Germany, June 16-22
1972 Mexico City, Oct. 22-27



Royal College of Dentists of Canada

Part I Examination (Basic Sciences) Sept. 21-25, 1970. This examination will be held in regional centres across Canada. Applications with a \$100 fee must be received before Mar. 31, 1970.

Part I Supplemental Examination Sept. 21-25, 1970. For candidates who were not entirely successful in September 1969. Written notice of intent to sit this examination with a \$50 re-examination fee must be received before Mar. 31, 1970.

Part II Examination (Oral) Last week of November or early in December 1970. Eligibility is based on successful completion of the Part I Examination, plus submission of required case histories, and the lapse of five years since the candidate began his graduate training. Written intent to sit this examination with \$100 examination fee must be received before Mar. 31, 1970.

Application forms for the Part I examination and further information may be obtained from J. E. Speck, Registrar-Secretary-Treasurer, Suite 614, 170 St. George St., Toronto 180, Ont.

Continuing Education/Cours d'appoint au Canada

Dental Emergencies

Alberta—R. S. Van Alstine. Jan. 31, 1970. Regis. limited. \$25
British Columbia—R. K. Lindsay, C. E. G. Robinson, T. A. Blair and R. E. Simpson. Jan. 19, 1970. Regis. limit 100. \$5

Dental Hygiene

Toronto—Marjorie Jackson. Jan. 19-20, 1970. Regis. limit 20. \$20

Endodontics

Alberta—J. M. Calvert. Sept. 9-11, 1970. Regis. limited. \$90
Toronto—G. C. Hare. Feb. 11-13, 1970. Regis. limit 10. \$60

Occlusion

Western Ontario—D. S. Moore. Feb. 23-27, 1970. Regis. limit 10. \$300

Operative Dentistry/Gold Foil

Alberta—G. H. Gibb. Nov. 5-7, 1970. Regis. limited. \$90

Oral Surgery

Alberta—R. S. Van Alstine. Jan. 17, 1970. Regis. limited. \$30
Alberta—R. S. Van Alstine. Sept. 18, 1970. Regis. limited. \$50
Toronto—P. T. Smylski. Mar. 9-13, 1970. Regis. limit 12. \$100

Orthodontics

Toronto—D. G. Woodside. Apr. 13-17, 1970. Regis. limit 20. \$100
Toronto—D. G. Woodside. May 12-13, 1970. Regis. limit 5. \$40
Toronto—D. G. Woodside. May 19-20, 1970. Regis. limit 5. \$40
Toronto—D. G. Woodside. June 9-10, 1970. Regis. limit 10. \$40

Paedodontics

McGill—R. W. Faith and G. H. G. Weinlander. Spring 1970. Regis. limited
Toronto—K. W. Davey. Apr. 1-3, 1970. Regis. limit 20. \$60

Periodontics

Alberta—James Birch (Kentucky). Apr. 6-8, 1970. Regis. limited. \$80
McGill—R. F. Harvey. Spring 1970. Regis. limited.
Toronto—C. H. M. Williams. Mar. 4, 11, 18, 25 and Apr. 22, 1970. Regis. limit 12. \$100

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Toronto—J. Kreutzer. Apr. 20-21, 1970. Regis. limit 20. \$40

Prosthodontics/Complete

Alberta—A. D. Fee. June 1-6, 1970. Regis. limited. \$150
Alberta—A. D. Fee. Sept. 21-23, 1970. Regis. limited. \$75

Prosthodontics/Partial

Toronto—R. L. Twible. Feb. 23-27, 1970. Regis. limit 15. \$100
Western Ontario—J. E. Ryan. Apr. 9-11, 1970. Regis. limit 12. \$100

(Continued on page A-20)

New dress, new start

This issue, the 420th, marks the thirty-fifth anniversary of our Journal. It could also, in Steve Allen's words, "be the start of something big." A big, bold, new venture in journalism for the dental profession.

Of course, change merely for the sake of change may be justifiably criticized. But change that results from reappraisal of one's position is an entirely different matter.

This is in fact the first issue of a completely redesigned publication — a journal with a new purpose, a fresh approach to reporting information about dentistry, a source of balanced treatment of any news that is significant for the profession.

The changes reflected in this issue are designed to make it easier to read and more attractive to the busy dentist. The Journal will continue to bring him news about important developments affecting health care. It will seek out significant events, trends and personalities affecting dentistry and report on them. The reporting will be accurate, concise and responsible.

A real attempt will be made to give all sides of significant issues. Those who have something to say on these issues will be invited to express their opinion in the Journal's columns.

The Journal will also report on controversial, timely news, events and people. In doing so, it may have to chronicle the good and the bad in dentistry; but it will always endeavour to be objective and fair.

Its columns will try to serve the profession by giving readers up-to-date information on, and an insight into, the world in which they live and practise. We shall "tell it like it is," to borrow a popular phrase.

The fashion-wise will quickly note that the Journal has also donned fresh make-up to match her new purpose. We live, after all, in an age of fashion anarchy where anyone with the cash or the nerve wears precisely what he wants without arousing too much comment. But a lady of quality can wear almost any fashion with grace, and we hope that the new look of the Journal wins the approval of the profession whose lady she is. We hope, too, that it reflects credit on those who, over the years, have contributed so much to that quality no matter in what fashion she chose to appear.

An echo from the past

In his first editorial in the January 1935 issue, the editor, M. H. Garvin, wrote:

"The publication of a journal is intimately linked up with the growth and development of our national association.

"When one visualizes the great need for such an association, and mentally calculates the amount of work undertaken by our standing and special committees; when one considers the tasks still to be undertaken along the lines of research, dental health education, library bureau, bureau of chemistry and dental therapeutics, dental educational council, relief work, bureau of economics; and when one ponders on the national and international relationships, also the talked-of changes in our scheme of things from a state dentistry point of view — one is fired with the vital need of strengthening as rapidly as possible our Canadian Dental Association.

"Our Journal stands at the door, ready to assist in this task, ready to broadcast throughout the Canadian profession an accomplishment in any one section of the profession, ready to bridge the gap between professional achievement and the public needs. It aspires, through our dental leaders, to mould the thought of the profession, to guide its hopes and clarify its problems, supporting all things which elevate and inspire. It will glean from every section of the Empire, every phase of dental life, from every realm of scientific research, in order to spur us on to greater endeavour. The Journal hopes to speak for our Association and to be its official organ, serving as a mirror of dental life in Canada and at the same time being a journal of constructive opinion, fighting in season and out of season for the highest and noblest principles, thus representing the best traditions of Canadian dentistry."

The present editors remain faithful to these objectives. They will seek the pertinent and present it in a palatable form so that the Journal may meet the test of any publication, which is to be read, while continuing to fulfil Dr. Garvin's objective to "represent the best traditions of Canadian dentistry."

Un costume de travail

“Bon anniversaire, nos vœux les plus sincères . . .”, ainsi va le refrain d’une chanson populaire. Notre Journal célèbre aujourd’hui son trente-cinquième anniversaire de naissance en publiant ce quatre cent vingtième numéro.

Mais, comme vous l’avez certainement remarqué, ce n’est pas un numéro comme les autres. Notre Journal s’engage aujourd’hui dans une nouvelle voie en présentant non seulement un nouveau format, mais aussi en établissant de nouvelles formes de reportage où tous les points de vue auront l’occasion d’être entendus.

Les changements physiques apportés au Journal le rendront plus lisible et plus intéressant pour le lecteur-praticien. Nous continuerons à vous apporter les dernières nouvelles concernant les changements économiques de la profession dans toutes les provinces et dans tous les pays ainsi que les activités des personnalités éminentes de notre profession. Les reportages seront précis et compétents.

Et quelle sera la place du français dans notre Jour-

nal? La réponse est toute simple: elle sera aussi importante que nous voudrions la rendre. En 1969, nous avons essayé d’améliorer la chronique des nouvelles en augmentant les informations émanant du Québec, sans toutefois reproduire ce qui se fait déjà au niveau provincial. Nous continuerons le perfectionnement de cette chronique.

Malheureusement, un immense problème existe au niveau scientifique. En 1969, le Journal n’a publié que deux articles en français en provenance du Canada (les deux autres venaient de la Belgique et de la Suisse). C’est bien mince! On ne peut pas croire que cette famine dans la littérature dentaire est le vrai reflet de l’activité scientifique et intellectuelle des Canadiens de langue française. Il importe donc à l’élite, aux chercheurs, aux professeurs, et aux meilleurs praticiens de démontrer concrètement l’animation qui existe actuellement au Canada français. Il ne faut pas donner au monde une impression erronée de notre dentisterie. Il ne tient qu’à nous de retrousser nos manches et de nous mettre au travail.

Letters

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Laryngospasm and duodenal perforation during exodontia

It is evident that the patient in the article by Doctors Phillips, Brown and Koven (J Canad Dent Ass 35:603, November 1969) had a history of duodenal ulcer, even though he did not attach any significance to his occasional abdominal discomfort. The fact that perforation occurred during or just after the administration of the general anaesthetic may be purely coincidental, although the fact that the patient had been fasting for 12 hours and that he was undoubtedly under some stress prior to the procedure cannot be overlooked. The aetiology of the laryngospasm cannot be definitely determined.

The case is an interesting one, but certainly is and will be a very rare occurrence. The authors should certainly be given credit for handling the situation in the manner in which they did and for ultimately saving the patient's life.

K. C. Bentley, DDS, MD
Associate Director, Hospital
Dental Services
Department of Dentistry
Montreal General Hospital

Alternatives to fluoridation

Congratulations on the dialogue section added to the recent editions of the Journal. Controversial presentations, well documented, can do much good.

The report of the Council of Research and Bureau of Public Information on

alternatives to community fluoridation downgrades, in my opinion, the effect of topically applied fluoride in fluoridated and non-fluoridated areas. Although the topical treatment is described as relatively expensive in relation to fluoridation of commercial water supplies, it is not expensive when compared to its additional benefits in further reducing caries incidence. Preventing more costly restorations and their continual maintenance and replacement throughout a lifetime is no minor benefit.

The prediction of an 80-90 per cent reduction in caries in children is not a far-away dream but is alive and doing well because of the triple-fluoride approach of systemic therapy plus topical application plus accepted fluoride dentifrices for children. Let us not negate fluoride prophylaxis, topical applications and fluoride dentifrices in adults because of the very minor direct benefits of community fluoridation to that age group.

R. A. Clappison, DDS
170 St. George St, Toronto 5, Ont

Case of delayed eruption

Your readers may be interested in the following case of a retained deciduous central incisor complicated by a supernumerary tooth which prevented eruption of the permanent central incisor.

The patient, a nine year old boy, first came to me on December 13, 1965, to have the deciduous tooth extracted. I looked for the supernumerary tooth but could not find it due to lack of time (Fig 1). The patient returned on

Fig 1 Dec 13, 1965. Fig 2 Jun 24, 1966.

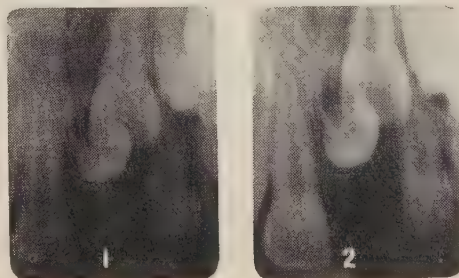
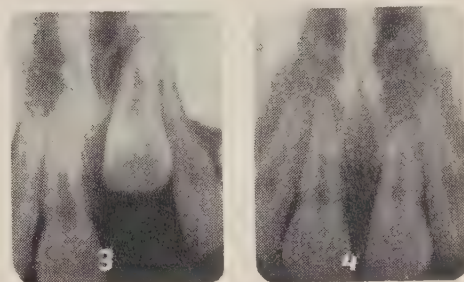


Fig 3 Jan 5, 1967. Fig 4 Oct 21, 1969.



June 24, 1966. At this time the supernumerary tooth was located and removed (Fig 2). Six months later, on January 5, 1967, the permanent central incisor had moved down and was starting to erupt (Fig 3). By October 22, 1969, at age 13, the tooth had fully erupted although its root was slightly shorter than that of the other central incisor (Fig 4).

J. D. Newby, DDS
427 Quebec St, Prince George, BC

Induction of foraminal closure

I would like to comment on the case report by Doctors H. J. Van Hassel and E. Natkin in the November 1969 Journal.

Treatment such as that reported by the authors has proved of great value for young patients, but we have heard little of its use in adult teeth with undeveloped roots and consequent open apices. Thus their report and radiographs, showing such good results, encourage us to make use of such treatment for older patients rather than assume that closure can only be attained in the young.

Not too many years ago endodontic treatment for older people was almost frowned upon because we assumed that processes which occur in the young do not have their counterpart in the old. Van Hassel and Natkin's article adds to our knowledge if it can be presumed to apply to the adult.

D. C. Eaton, DDS
1584 Robie St, Halifax, NS

Treatment of oligodontia

I should like to reply to R. L. Scott's criticism of my case report on treatment of oligodontia (p 562, November Journal). First of all, space did not permit inclusion of the complete medical and past dental histories. Any hereditary implications, past radiation therapy, root resorption, caries incidence, periodontal condition, etc., would have been included in the report if deemed necessary. Second, as mentioned in the article, the patient had been under the care of another dentist and did not seek alternative advice until the age of 15 years. The purpose of the article was to point out the importance of an adequate radiographic survey at an early age. Early diagnosis would have prevented unnecessary extractions and hence additional treatment and expense to the patient.

F. E. Short, DDS
Indiana University School of Dentistry
Indianapolis, Indiana

Requests from police

From time to time, I have seen in the Journal requests for information by the police in cases of identification.

We are doing a survey and trying to propose a format for presenting the dental details.

Could you please tell me:

1. How many requests from the police you have received between 1959 and 1969?

2. How often have you had replies?

3. How often has an identification resulted from the reply?

Warren Harvey, MRCS LRCP, FDS
Glasgow Dental Hospital and School
Glasgow C3, Scotland

Although the Journal publishes requests from time to time for information in cases of identification, we have no way of knowing what results are obtained. Readers are most likely to contact the police authorities from where the requests came (Ed.)

My dental diary

It is my boast that I have left a tooth in every town where I have lived. I

would have quite a time collecting them if it were found to be necessary when Gabriel's trumpet sounds. These teeth are buried somewhere in the midden heaps of New Hampshire, Massachusetts, Chicago, Accra (Ghana) and several points in Ontario.

The 17 teeth which remain to me are indeed a survival of the fittest for they apparently intend to be faithful unto death. I have not had an extraction for about eight years. Fortunately these surviving teeth are in the front section of my smile and no one would suspect the barrenness of the hinterland.

As I have made my way nervously through these decades with dentists I have had some interesting experiences.

The dentist in the small New Hampshire village where I spent my childhood wore a dark moustache which curled up at the ends like that of the villain in the melodramas put on by the local dramatic club. In addition to this he was a Methodist, and as 90 per cent of the population was Congregationalist, including all of my relatives, Heaven alone knew what he might be up to.

What he was up to, I soon found out, was a supposedly humane process called "killing the nerve." In those days there was no way of freezing the tooth before filling it, or if there was, the knowledge had not yet percolated through to my dentist. So to prevent the drilling from being painful you first had the nerve killed, a bit at a time. Every week I dragged my quaking knees up the dusty stairs in "The Chase Block," and I can still smell the mixture of tobacco smoke and drugs which permeated the second floor.

When I was all too soon perched, stiff with terror, in the red plush chair, Dr. Holder began removing the section of nerve fibre which had supposedly been killed by the previous week's application of whatever that liquid was in his little bottle. He had a small instrument shaped like the tool we played jack-straws with—a wooden handle holding a very thin wire bent at the end like a fish-hook. He hooked this around the nerve and then twisted it around and around. The last two or three twists invariably wound up a portion of the nerve not quite dead yet. I suppose he figured that since I was howling anyway he might as well give me something to howl about.

The knowledge of psychology which I acquired later in life tells me that it is due to this traumatic childhood experience that I still hate to go to the dentist. Certainly nothing has happened to me in the last 40 years to justify my cowardice when an appointment falls due. But though my head knows it is irrational, my inner spirit still quakes. I guess there is a part of us that never grows up.

It fell to the lot of a Boston dentist to relieve me of my wisdom teeth as soon as they had been through the gums long enough to meet up with a

couple of chocolate bars. It was unfortunate that this coincided with the beginning of my university career. A classmate who hailed from a Vermont village declared that these losses would handicap my pursuit of knowledge. Sure enough, I failed trig and got more red ink on a single English composition than I had acquired in all four years of high school.

A few years later I was a bride in West Africa. On this occasion, although I was on my way to a dentist in Accra, it was not my teeth but another lady's that provided the excitement. I noticed that my African chauffeur was driving very erratically, and the chickens and goats along the road were barely escaping being bunted into Kingdom Come.

I exclaimed: "Cudjo, why for you drive so?"

"Eh, Ma, I got plenty trouble. I must go for court."

"Oh. Why?" I asked sympathetically.

"Cause I beat my wife."

"Cudjo! Why you do that?"

"Cause she bit me. Look." He jerked up his tunic, and there was a row of purple scars in his bare brown stomach, proof that the petulant lady had a set of good strong teeth. On further questioning I learned that Cudjo had brought home a cute little Number Two wife, and Number One had objected.

The vicissitudes of being a teacher's wife eventually landed me in an Ontario village which shall be nameless. The only dentist was a very good dentist. Everyone said his work was excellent. But unfortunately his equipment was rather primitive owing to the fact that his habitual thirst made it difficult for him to save enough money to buy an electric drill or install any plumbing.

On this particular morning I had an appointment at nine o'clock for an extraction. He froze the tooth and removed it with a minimum of trouble. I knew my gum was bleeding and I wanted to rinse out my mouth, so I said: "Aw wa a ink a wawa."

He replied courteously: "Oh I haven't brought any water up yet. Will I get you a pail?"

The memory of his generous offer has made me smile whenever I have been about to have another extraction, and must have given my dentists an entirely false idea of my true state of mind. We soon moved to another town, and ever since then I have been ministered to by impeccable dentists in white jackets, with nylon-clad nurses hovering near.

But Gentlemen, oh Gentlemen, be gentle. For underneath my seemingly calm exterior and tidy grey coiffure still lurks the little girl who had her dental nerve fibres removed an inch at a time.

Helen Eastman
1064 4th Ave A, West
Owen Sound, Ont

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer à cette section du Journal.

A propos des chirurgiens-dentistes étrangers

En tant que lecteur régulier du Journal de l'Association dentaire canadienne, je ne puis m'empêcher de déplorer l'échec infortuné mais néanmoins compréhensible des chirurgiens-dentistes tchécoslovaques immigrés l'année passée au Canada. Il faut reconnaître cependant que le sort qui a été subi par ces individus aurait pu survenir de façon fort comparable dans bien d'autres pays où les problèmes liés à l'immigration, tel que l'assimilation et le reclassement social des membres d'une profession libérale, posent des questions complexes et surtout difficiles à résoudre en un si bref délai.

Il est généralement admis que le niveau de perfection des soins dentaires tels qu'ils sont pratiqués en Europe de l'Est est assez différent du standing d'excellence avec lequel ces soins sont exécutés en Amérique du Nord. Les rapports faits par différents groupes d'étude ayant séjourné dans ces pays, ou bien plus directement, l'examen des travaux présents en bouche chez les immigrants en provenance de ces nations témoignent de la véracité de cet état de fait.

Il est aussi vrai que la compétence intellectuelle ainsi que la dextérité manuelle de chacun constituent des entités bien définies, et qu'il faudrait bien se garder de généraliser et de se méprendre en rejetant en bloc tout un groupe de dentistes sur le simple fait qu'ils ont vécu sous un régime différent du nôtre.

Voilà pourquoi il faut étudier scrupuleusement les différentes solutions susceptibles de résoudre les problèmes qui se posent présentement et qui pourraient vraisemblablement se présenter à l'avenir toutes les fois qu'une immigration comparable et soudaine se produirait.

Différentes solutions ont été suggé-

rées dans le but de résoudre ces problèmes.

La première solution est radicale et n'est guère basée sur des réalités. Elle consisterait à requérir de tout candidat qu'il refasse toutes ses études dentaires afin de pouvoir être qualifié à pratiquer la dentisterie dans son pays d'adoption.

La seconde solution est d'apparence plus aisée mais n'en demeure pas moins d'un résultat douteux car elle consisterait à autoriser le dentiste immigrant à se présenter directement à l'examen pour la licence sans aucune préparation préalable. Dans ce cas, du fait de la différence des standards de la pratique dentaire existant entre différents pays, parfois parmi ceux même en voisinage immédiat, il peut être prévu que l'échec à ces examens sera assez commun, voire décourageant.

La troisième solution, et c'est peut-être là l'esprit de la décision du Collège royal des Chirurgiens-Dentistes de l'Ontario, proposerait une série d'examens généraux préliminaires oraux, écrits, et pratiques (avec interprète si nécessaire) qui permettraient d'évaluer la capacité académique et la capacité professionnelle des candidats pris en particulier. Il serait souhaitable que ces examens préliminaires ne soient pas nécessairement donnés par les écoles dentaires mais plutôt par un comité de chirurgiens-dentistes compétents sélectionnés par les soins de l'Association dentaire canadienne. Se basant sur les résultats obtenus à ces examens, le comité établirait selon l'échéance un plan complémentaire d'études qui tiendrait compte des nécessités individuelles de chaque candidat et qui sera soumis à celui-ci pour exécution. Une fois cette phase d'éducation d'ajustement terminée, les candidats seront alors autorisés et encouragés à se présenter à l'examen pour la licence pour laquelle leurs chances de succès seront désormais optimales. Cette phase d'éducation pour les candidats spéciaux pourra être rendue soit au sein des écoles dentaires, soit dans le cadre des cliniques, dispensaires ou hôpitaux fonctionnant en association directe avec ces écoles dentaires, et qui maintiendront des standards d'excellence compatibles aux concepts courants de la pratique de la chirurgie dentaire au Canada.

Cette troisième solution en dépit de sa durée et de sa complexité apparente, offrirait aux dentistes immigrants une solution équitable et commune. On

aura ainsi donné aux dentistes la possibilité de contribuer d'une façon efficace et positive à l'hygiène et à la santé dentaire du public, tout en leur prouvant que leur nouvelle patrie est vraiment une source de bonheur et de satisfaction plutôt qu'un germe de déception et de désillusion.

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Coiffage pulpaire direct

Dans la livraison du mois de novembre 1969 de votre Journal, a paru l'article de M. D. Jones et G. H. Gibb intitulé "Coiffage pulpaire direct à l'aide de Dycal". C'est avec grand plaisir que j'exprime mon opinion à ce sujet.

L'étude entreprise par les auteurs n'est pas nouvelle. Déjà en 1948, le Dr J. Arthur Renaud publiait un article sur le sujet intitulé "Nouvelle médication servant à coiffer avec succès les pulpes blessées des dents permanentes" (J Ass Dent Canad 14:493, 1948).

Le deux chercheurs contemporains se sont donnés beaucoup de peine pour entreprendre une vaste et longue enquête clinique pour vérifier les résultats très concluants sur les coiffages pulpaire directs pratiqués sur les pulpes dénudées. Cent-quatre-vingt-quatorze expositions pulpaire récentes sur 207 dents ont donné des résultats satisfaisants en conservant la pulpe saine et vivante. La période d'observation clinique a duré jusqu'à six ans.

Les auteurs ont étudié l'effet du ciment à base d'hydroxyde de calcium (Dycal) sur les pulpes exposées, soit mécaniquement, soit par la carie. L'âge des patients variait entre 14 à 52 ans.

Il est dommage que cette étude ne donne pas en détail les groupes d'âge par rapport au chiffre de succès, car nous savons très bien que l'âge est un facteur très important dans le pronostic des résultats favorables de coiffage pulpaire direct.

Le coiffage pulpaire direct se pratique sur les pulpes jeunes dont le potentiel de réparation est énorme. Il me semble étonnant que les résultats favo-

rables furent observés même chez des patients âgés de 52 ans.

Une autre observation concernant les statistiques m'a surpris: un nombre élevé de dents cariées avec pulpes exposées (145) a aussi donné des guérisons pulpaire post-coiffage direct. Nous avons l'habitude de choisir cette méthode de traitement pour les expositions pulpaire stériles ou quasi-stériles, c'est-à-dire récentes. Ce genre d'exposition pulpaire peut être d'origine mécanique ou traumatique, mais rarement d'origine carieuse pour éviter le danger de contamination bactérienne de la pulpe provenant de la carie.

L'étude des deux auteurs démontre clairement que même les expositions pulpaire sous la carie peuvent aussi bénéficier de cette technique opératoire à condition que cette pulpe ne soit pas complètement envahie par les micro-organismes.

Le pourcentage total des résultats favorables se classe dans le voisinage de 93.7 p.c.

L'étude se base seulement sur l'observation clinique pour enregistrer la santé et la vitalité pulpaire des tissus périapicaux. Aucune étude sur la santé pulpaire ne peut être complète sans l'étude histopathologique: c'est la lacune la plus grave de cette recherche. Un mauvais diagnostic, et un mauvais choix des cas, de même que l'infection via carie ou salive et la compression, sont les grands ennemis des coiffages pulpaire directs.

Permettez-moi de donner quelques déductions et conclusions valables en 1969 sur les coiffages pulpaire directs:

1. La pulpe n'est pas un organe fragile voué à la destruction dès qu'elle est blessée. Elle est susceptible au contraire de se cicatriser et de poursuivre sa vie normale, si elle est mise dans des conditions favorables. La lutte contre l'infection dans les autres tissus a comme première manifestation la congestion (inflammation). La congestion dans la pulpe enfermée dans un vase clos provoque la compression des éléments nerveux (douleurs), mais aussi une tendance nécrotique que l'absence de circulation collatérale favorise également. L'abstention de médicaments irritants, l'utilisation de la technique aseptique (digue), l'alcalinisation du milieu pulpaire (CaOH)₂ représentent des conditions favorables.

2. La dentinogénèse exercée en général par les odontoblastes constitue la fonction essentielle de la pulpe. Cette fonction, très active pendant la formation de la dent, se ralentit peu à peu lorsque l'édification radiculaire apicale est totale, mais elle subsiste. Cette fonction stimulée par la carie, l'abrasion, l'attrition, le traumatisme et les obturations retrouve une nouvelle activité surtout chez les enfants (dentine réactionnelle tertiaire).

3. Lorsqu'il y a perforation de la chambre pulpaire, les odontoblastes qui se trouvent engagés par la fibrille de Tomes dans la dentine détruite sont

obligatoirement détruites et il y a solution de continuité dans la couche odontoblastique dentinogénétique.

4. Les produits de coiffage bien choisis et bien placés en contact avec la plaie pulpaire permettent: (a) la cicatrisation de la plaie pulpaire (pont néodontinaire); (b) la fonction dentinogénétique.

5. Le meilleur produit de coiffage semble être jusqu'à maintenant le (CaOH)₂. L'eugénate de zinc peut être classé comme produit de remplacement, car il opère en profondeur une réduction temporaire de l'inflammation pulpaire; mais l'inflammation chronique persiste.

6. Les molaires donnent un pourcentage plus élevé de bons résultats post-coiffage pulpaire direct que les dents antérieures car: (a) le volume pulpaire est plus grand; (b) la ligne d'amputation est plus nette; (c) les molaires et prémolaires ont une chambre pulpaire; (d) les incisives n'en ont pas.

7. La vérification fréquente des post-coiffages pulpaire directs est importante et elle comprend: (a) un questionnaire du patient (symptomatologie); (b) radiographie périapicale et proximale (coronaire); (c) test de vitalité pulpaire: électrique et thermique; (d) test de percussion.

8. Il est formellement contre-indiqué de pratiquer un coiffage direct dans une dent appelée à être recouverte d'une couronne et de servir comme pilier de pont; de même quand il s'agit d'une incrustation élaborée ou d'une reconstitution à pivot en amalgame. Dans ces cas, il vaut mieux pratiquer la biopulpectomie totale vitale préventive pour éviter les complications post-opératoires.

9. Un champ opératoire stérile, un bon choix des cas, un diagnostic précis, une excellente substance de coiffage et une anesthésie profonde constituent des critères indispensables de réussite. Kronfeld traite de contamination de la pulpe saine par l'opérateur au cours de l'acte opératoire, par la salive et par les projections septiques qui causent la nécrose pulpaire tardive.

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Summary of Dr. Silbert's letter: Doctors Jones and Gibb have recorded the results of an extensive investigation of direct pulp capping. Capping with a calcium hydroxide preparation gave satisfactory results in 194 of 207 (93.7 per cent) teeth with fresh mechanical or carious exposures. The period of clinical observation extended up to six years. The subjects' ages ranged from 14 to 52 years, but the authors did not relate the rate of success to the patients' ages.

Age, as reflected by the repair potential of young pulps, is an important factor in the prognosis for direct pulp capping. It was therefore surprising to read about successful results in patients as old as 52. Equally surprising was the considerable number of teeth with carious exposures (145) which survived. Pulp capping is usually reserved for recent traumatic or mechanical exposures that are sterile, or nearly so. Yet the authors have shown very clearly that even carious exposures can benefit provided the pulp has not been extensively invaded by micro-organisms.

Though Jones and Gibb report their clinical observations, they provide no microscopic evidence to substantiate their conclusions. This is a major shortcoming. Misdiagnosis and improper selection of cases, as well as infection through caries and saliva, can impair the success of direct pulp capping.

The following observations reflect the present status of direct pulp capping:

1. An injured pulp need not necessarily succumb; it can recover under favourable circumstances. These include the avoidance of irritating drugs, employment of an aseptic technique (rubber dam), and the use of calcium hydroxide.

2. The pulp's primary purpose is to form dentine. This function diminishes as tooth formation progresses, but it can be stimulated afresh by caries, attrition, trauma or deep restorations.

3. Perforation of the pulp chamber with concomitant destruction of dentine and the related Tomes' fibres results in destruction of the affected odontoblasts and a loss of continuity of the dentinogenetic surface of the pulp.

4. Properly selected capping agents can heal the lesion and promote the formation of secondary dentine.

5. Calcium hydroxide, so far, appears to be the best capping agent. Zinc oxide-eugenol induces a temporary reduction of inflammation, but chronic inflammation tends to persist in the presence of this material.

6. Direct pulp capping achieves better results in molars than anterior teeth because (a) molars have a greater pulp volume, (b) the line of amputation is more clearly defined, and (c) molars have definite pulp chambers.

7. Frequent postoperative checks of direct pulp capping are essential. These should comprise (a) patient questionnaires, (b) radiographic examination, (c) thermal and electric pulp vitality tests, and (d) percussion tests.

8. Direct capping is contra-indicated in teeth with inlays or pin-retained amalgam restorations and in teeth destined to bear a crown or serve as a bridge abutment. Total pulpectomy is preferable in such teeth.

9. A sterile operative field, proper selection of suitable cases, accurate diagnosis, a good capping material and adequate anaesthesia are essential for success.

Dialogue

"Dialogue" deals with issues affecting the Canadian Dental Association and its corporate members. Contributions are invited and should not exceed 500 words. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association.

Organization of a provincial dental body

In recent years there has been considerable unrest among the dentists of British Columbia in regard to the administration of their affairs. This disenchantment was due, for the most part, to the existence of two organizations.

The one, known as the College of Dental Surgeons of BC, was charged with administering the dentistry act of the province, and every licensed dentist was a member. The greatest criticism it received was because of the autocratic powers of its elected council.

The other group—the BC Dental Association—was a voluntary organization with aims very similar to those of the CDA, namely safeguarding the interests of the profession, educating the public and directing their opinion in relation to dentistry. It held conventions, prepared fee schedules, administered and supervised the BC Dental Welfare Plan and published a bi-monthly *Bulletin*. At the height of its membership the BCDA included 75-80 per cent of the province's dentists.

The obvious criticism levelled at this body was about the 20-25 per cent who opted out, reaping benefits from it, but leaving the responsibilities of administration and finance to others. Overriding these problems was the continuing confusion, to the public and to government, arising from two separate dental groups and the unavoidable schism that developed from time to time between their respective executive bodies and manifested throughout the profession.

In restructuring organized dentistry in British Columbia the members of the profession established by their criticism the following major principles:

1. All members must have the democratic right to submit resolutions which, if passed at an annual or special meeting, will bind the actions of the elected representatives to the extent that such resolutions do not contravene the dentistry act.

2. A person who enters into and practises the profession of dentistry accepts a responsibility to dentistry from which he cannot escape. Therefore, membership in the organized provincial body, which speaks on behalf of the profession, must be mandatory. The right to benefits from the professional organization carries with it the obligation of financial support and professional loyalty.

3. The dental profession must speak with one strong clear voice on all matters of provincial concern to the profession. This includes a business element as well as professional ethics, standards and constant updating of dental knowledge. Furthermore, there must be one clear line of authority from the top to the bottom of the organization.

4. There is sufficient common interest spread across all activities of the profession to require one forum to resolve any areas of difference or potential conflict.

5. Local dental societies must be autonomous units having strong representation on the provincial body to ensure full and adequate liaison.

A unified organization has been formed with aid from the management consultant firm of Stevenson and Kellogg, Ltd, and advice from the legal firm of Bull, Houser and Tupper. For convenience, the name College of Dental Surgeons of BC has been retained. Clear-cut divisions within the College deal with matters pertinent to the areas of their responsibility and excellent intercommunication has been developed. Time alone will be the test of the above principles, but there is a new air within the profession—one of involvement, interest, leadership and dialogue.

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Voluntary associations and licensing authorities in dentistry

Of the 10 corporate members which comprise the CDA, nine are concurrently the licensing bodies of the provinces which they represent. Only in Ontario is the corporate body — the Ontario Dental Association — a separate and distinct entity from the licensing body — the Royal College of Dental Surgeons of Ontario.

The licensing body is in fact a creature of the provincial legislature and is answerable to it. It is responsible for licensing, discipline and education. The licensing body has been granted quasi-judicial status by the legislature of each province and has the power to enact laws which may be approved by order-in-council. The link between the licensing body and the legislature is, then, a very real one, indeed.

To some, when the same body represents the interests of all the people (i.e. the legislature) and at the same time represents the profession, there must be an inherent conflict of interest, particularly in the socio-economic sphere. In future, bargaining with government will become commonplace. There will obviously be situations where the "wearing of two hats" by the dental licensing body becomes a difficult balancing act. How can the same body represent the interests of both sides in a bargaining situation?

The argument that the well-being and interest of the public is always coincident with that of the profession does not readily hold when one is dealing in the area of economics.

Since the preponderance of the Board of Governors of the CDA is made up of representatives who are beholden to their respective legislatures, it follows that many facets of CDA policy might reflect thinking which is approved by provincial governments and not necessarily that of the profession.

This basic contradiction in the make-up of the CDA militates against its policies reflecting the will of the profession.

The inference, then, is that each province should have a separate voluntary dental organization distinct from the licensing body.

The counter-argument to this is that in the smaller provinces such an idea would be impractical, and so it would be.

The answer to this dilemma might be to divide the CDA into "five" corporate bodies — BC, Prairie Provinces, Ontario, Quebec and the Atlantic Provinces — each body representing the voluntary portion of the profession and unattached to the licensing entity.

This practical step would produce a CDA which is representative of the unfettered voice of Canadian dentistry.

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Federal representation on the CDA Board of Governors

Article V, Section 2(e) of the By-Laws of the Canadian Dental Association states, in part:

"For the purposes of this section, Federal Dental Services shall be deemed to be a corporate member entitled to appoint one representative to the Board of Governors. Federal Dental Services shall consist of all members of the Association who are employed by the Department of National Defence, the Department of National Health and Welfare and the Department of

Veterans Affairs. The representative of Federal Dental Services to the Board of Governors shall be appointed for a three year term in such manner as Federal Dental Services may decide. . . ."

This section provides a mechanism by which the approximately 250 Association members employed by federal departments are represented on the Board of Governors. This is of particular importance in regard to those 90-100 dentists, chiefly in the Armed Forces, who are assigned for duty in provinces other than those in which they are registered or are outside of Canada. It also provides an intimate and effective forum for communication to the Board of information of a federal nature concerning matters of dental import.

The existence of the federal seat on the Board of Governors came under fire at the annual meeting in Vancouver in 1968. It was examined at the Aims and Objectives Conference in February 1969 and a recommendation for its deletion was made and subsequently supported by the Executive Council. Debate on this subject at the 1969 meeting in Montreal was mainly noteworthy for the amount of heat generated. It was apparent that the issue had become an emotion-charged and divisive one, a matter of particular significance at a time of great need for unity within the Association.

The arguments advanced for deleting federal representation centered mainly on concern over the fact that certain federally-employed dentists—those residing and working in the provinces in which they are registered—are accorded dual representation. Concern was also expressed that this creates a potentially dangerous precedent which some other group might use as a lever to obtain similar representation. Although these arguments appear rather unconvincing, they were sufficient to split opinion and result in a very inconclusive consensus at both reference committee and Board meetings.

At the special meeting of the Board of Governors (October 31-November 1), the CDA President proposed an amendment to Article V, Section 2 to create a more representative Board structure. His proposal provides for a Board of 32 members including the president, 30 provincial corporate member representatives (including the immediate past president) and three representatives from Federal Dental Services, the latter to be the dental directors of the federal departments concerned and without voting privileges. The federal member of the Board concurred with the general agreement favouring this proposal.

From the viewpoint of Federal Dental Services this proposed amendment provides for increased communication within the Board and is in line with the general desire for greater representation expressed by other corporate members. On the other hand, the fear persists that the restriction of voting privileges may have the effect of providing only partial representation for dentists who serve "out of province." It leads to conjecture that the interests of all might be better served by the allocation of one vote to the three federal representatives. Such a provision would, in my opinion, raise the rating of the proposed amendment to Article V, Section 2 from "good" to "excellent."

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Dentistry at the Ontario Science Centre

Turreted, spilling down a valley and overlooking 180 acres of Don Valley parkland in east central Metropolitan Toronto. That's Ontario's centennial project — the Ontario Science Centre — where a totally engaging and memorable experience awaits visitors to the dental display in the Hall of Life.

Featured in the \$80,000 dental exhibit are a fully-functioning germ-free environment, a display outlining evolution of the dentition, an animated presentation on the development and eruption of teeth, a presentation showing stereo x-rays of dentition, and the actual recreation of an 1890's dental parlour.

Germ-free rats

Focal point of the "Modern Dentistry" area of the overall exhibit is the germ-free environment. This large unit contains a number of small cages which house germ-free rats. Integrated into the scheme of this display is an audiovisual program consisting of five back-projected screens for 35 mm slide viewing and a voice track which carries the descriptive narration. This display is designed to tell visitors about the structure of teeth, their importance, the development of cavities and the factors contributing to dental caries and periodontal disease.



Gordon R. Carton, QC, member of the Ontario Legislature for Armourdale, opened the dental exhibit in the Hall of Life of the Ontario Science Centre November 28. Mr. Carton was flanked during the ribbon-cutting ceremony by Dr. S. A. MacGregor, left, chairman of the dental committee which planned the exhibit, and Douglas Omand, director-general of the Centre.



First visitors to the new dental exhibit at the Ontario Science Centre were welcomed by Dr. S. A. MacGregor, second from left. Dr. MacGregor, former professor and chief of the Department of Paedodontics, University of Toronto, turned over the dental exhibit to the Centre on behalf of the Toronto Alpha Omega Foundation, the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association, joint sponsors of the exhibit.

Flanking the germ-free display is a panel illustrating the evolution of teeth from cartilaginous fish to man. It features the skulls of a shark and a man, as well as 18 other animal skulls which have been assembled on an evolutionary tree. Descriptive passages comment on the dentition of the various animals and relate how the study of different types of teeth is useful to dentistry.

Also adjacent to the germ-free environment is a multi-unit display illustrating radiographs, normal dentition, dental caries and periodontal disease. A graphic panel shows the uses and principle of x-rays. The display on normal teeth is composed of a large model of a set of adult jaws with good dentition to show the visitor what healthy teeth and gums should be like. The four main types of teeth are compared to scissors, pick, nutcracker and mortar and pestle to suggest the roles that particular teeth serve. A pH telemetric device shown in the display on dental caries and the panel on periodontal disease indicates the nature, occurrence and treatment of these diseases.

Tooth eruption and development

The development and eruption of teeth from baby-to-adulthood is shown through the use of an animated flip-card presentation. Vehicle for this unusual presentation is a viewer reminiscent of those used in the by-gone era of the penny arcade. The more than 700 flip-cards have been reproduced from a sequence from Rocky Mountain Dental Products' film *Dentistry Through the Ages of Man*. This method of graphic presentation offers the visitor a dynamic overall view of the teeth developing and erupting. An added advantage is that the visitor can stop the viewing machine at any time for a closer inspection of the teeth during any period in their development.

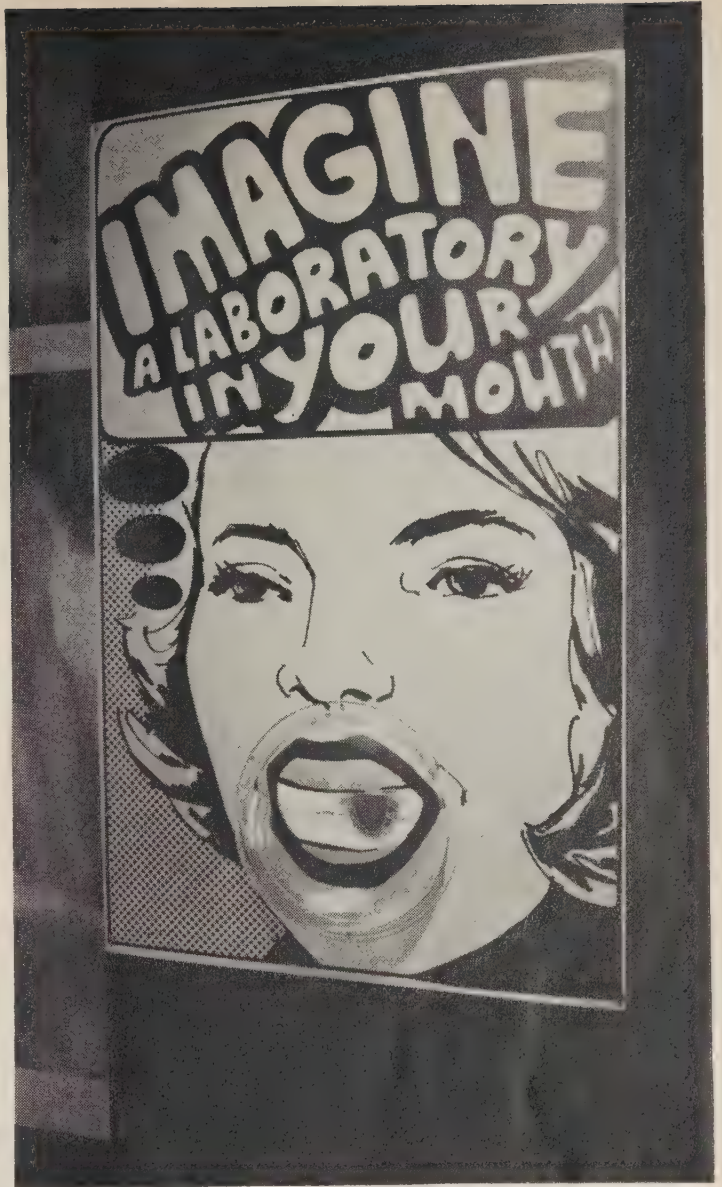
Companion to this exhibit are two displays which illustrate the importance of the first permanent molars and the primary molars.

Casts, cartoons explain malocclusion

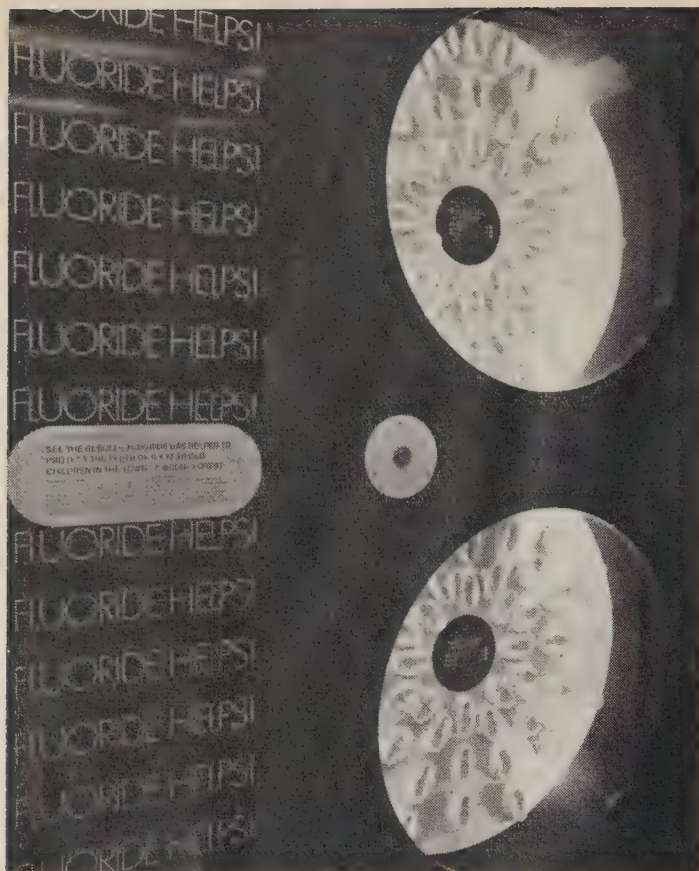
The malocclusion exhibit features material provided by orthodontists and oral surgeons. It shows before-and-after casts and before-and-after pictures of Class II and Class III malocclusions, as well as a normal profile. Five different ages of each type show development of the profile. In addition, as eye-catching examples of profile types, cartoon characters will be featured. Fearless Fosdick will serve as Class III, Andy Gump as Class II, and Steve Canyon as normal.

Fluoridation exhibit

The fluoridation exhibit consists of two panels — one showing casts of about 50 children from Mount Forest, Ontario, where the water is naturally fluoridated; the other comprising a set of 50 casts from children in a community where the water is fluoride-free. The white casts are coated with three different fluorescent paints to illustrate restored teeth, missing teeth and teeth with untreated carious lesions. By pressing a button, the visitor may extinguish the regular incandescent light and turn on an ultraviolet light which causes the paint to fluoresce. By observing the colour distribution in the two panels the visitor can readily compare the effects of fluoridated water. The message is reinforced by a copy panel which explains



Using a telemetric device, this display simulates the effect of ingesting sucrose and shows how sugar plus bacteria produce acid which dissolves tooth enamel.



The fluoridation panel features 100 dental casts treated with three types of fluorescent paint. Half the casts are from children in a fluoridated area; the remainder are from children living in a fluoride-deficient area. Fluorescent paint points up the dramatic difference in caries experience and tooth mortality between the two sets of casts.

As a contrast to modern dentistry and present-day dental research, this Victorian dental parlour shows antique dental equipment on loan from the University of Toronto's Faculty of Dentistry.



how fluoridation helps by rendering teeth more resistant to decalcification.

X-ray scan

One of the highlights of the overall exhibit is a display featuring stereo x-rays of dentition which has been called x-ray scan. The technique was developed by Professor A. G. Richards of the University of Michigan. It enables the dentist to scan through the skull with x-rays rather than expose a single radiograph with all the components superimposed over each other. The display includes the skulls of an adult and a child and radiographs of each. The radiograph of the child's skull shows the developing permanent dentition beneath the primary teeth. Bone has been dissected away so that visitors can actually see the two dentitions in the jaw as well as in the radiograph. The radiograph of the adult skull shows a lead pellet imbedded in the orbit of one eye. The viewer can thus scan through the skull, focus on the marker, and determine whether it is located in the right or left orbit and whether he is seeing the right or left jaw.

1890 dental parlour

In marked contrast to those exhibits featuring the methods, materials and machines of modern dentistry is the re-creation of a dental parlour as it would have appeared around 1890. Historical dental equipment has been loaned by the University of Toronto's Faculty of Dentistry. Located on an adjacent wall panel is a portrayal of dental technology. Visitors can inspect and compare the mechanics of a modern air-driven handpiece, a belt-driven handpiece and an old handpiece powered by a foot pedal. Similarly, other elements of this display are arranged to provide an insight into the development of dental instruments and technology.

Ontario Dental Association Committee

All of this has been achieved by the Ontario Dental Association at considerable time and expense. The first objective of the ODA's Ontario Science Centre Committee was to visit other such centres in Cleveland, Boston and Indianapolis to study approaches used by other groups involved in similar undertakings.



One of the displays in the Hall of Life shows the variety in dentition from shark to man, featuring 20 animal skulls including alligator, beaver and chimpanzee, arranged for easy viewing on a wall section.

A Toronto orthodontist, Dr. J. G. Dale wrote an outline covering that which would contribute to an outstanding overall exhibit. The dental scientists then considered the proposal and made their recommendations. This task having been completed, the onus was then placed on representatives from the Ontario Science Centre to transpose the written plan on to the drawing board. What was an arduous and time consuming task for the Committee was made even more difficult as a result of changes in Science Centre personnel assigned to the dental project.

However, the Committee and its chairman, Dr. S. A. MacGregor, and Mr. Lloyd Mayeda, who executed the exhibits, are to be congratulated for having brought this remarkable project into being through the application of extraordinary creativity, resourcefulness, long hours and hard work.

More than this inordinate effort was required to complete the project, however. At the July meeting of the Committee it was made evident that additional money was required to complete the display and to ensure sufficient funds to allow for changes in the years to come.

It was at about this time, when the need was greatest, that an anonymous donor issued a cheque for \$50,000 specifically earmarked for the dental exhibit

at the Ontario Science Centre. Also received toward the project were \$25,000 from the Royal College of Dental Surgeons of Ontario, \$4,000 from the Ontario Dental Association and \$1,000 from the Charitable Foundation of the Alpha Omega Fraternity.

And so, hard work and extreme generosity combined to provide Canadian dentistry with remarkable representation in one of the world's great science showcases.

Science Centre

The Hall of Life, in which the dentistry exhibit is located, is only one of nine major sections at the Centre. Other displays in this section feature microscopy, radiation, the sensory organs, plant growth, genetics and hormones.

The eight other major sections encompass Molecular Science, Earth Science, Space Science, Canadian Resources, a Hall of Communications, a Hall of Engineering, Transportation and the Junior Museum. Altogether, the Centre has about 150,000 square feet of exhibit space. The Director General estimates it would take visitors 48 hours to just partially look at every exhibit.

The three rough-textured concrete buildings of the Science Centre are set in an interconnected cluster on a dramatic ravine site that includes tableland, a heavily wooded gorge and knoll and a section of valley floor stretching toward the west branch of the Don River.

From the front, the reception building presents a long low facade, set back beyond a formalized landscape and a 450-by-85-foot pool from which a hundred columns of water are sprayed into the air. Apart from the attractive fountain effect, the pool doubles as the cooling pond for the Centre's air conditioning system.

From the valley floor the view of the structure is much different. Bold architectural forms rise like a fortress following the contours of its hilly site. This is the triangular-shaped three-level core building — the very heart of the megastructure.

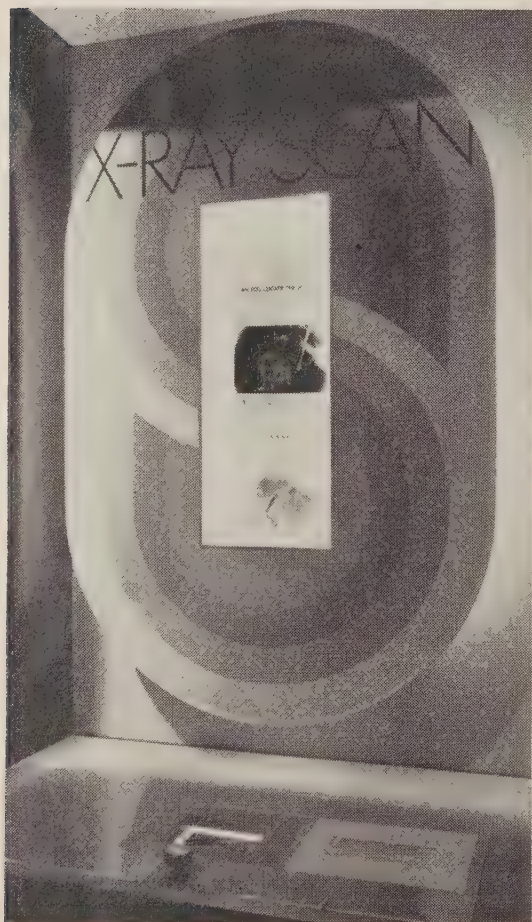
In the reception building are a restaurant and cafeteria, a science shop and bookstore and other facilities to serve the public.

In the core building, three circular wings off the central rotunda or Great Hall provide a 500-seat auditorium with the latest audiovisual equipment, three lecture halls, administration offices and exhibit areas.

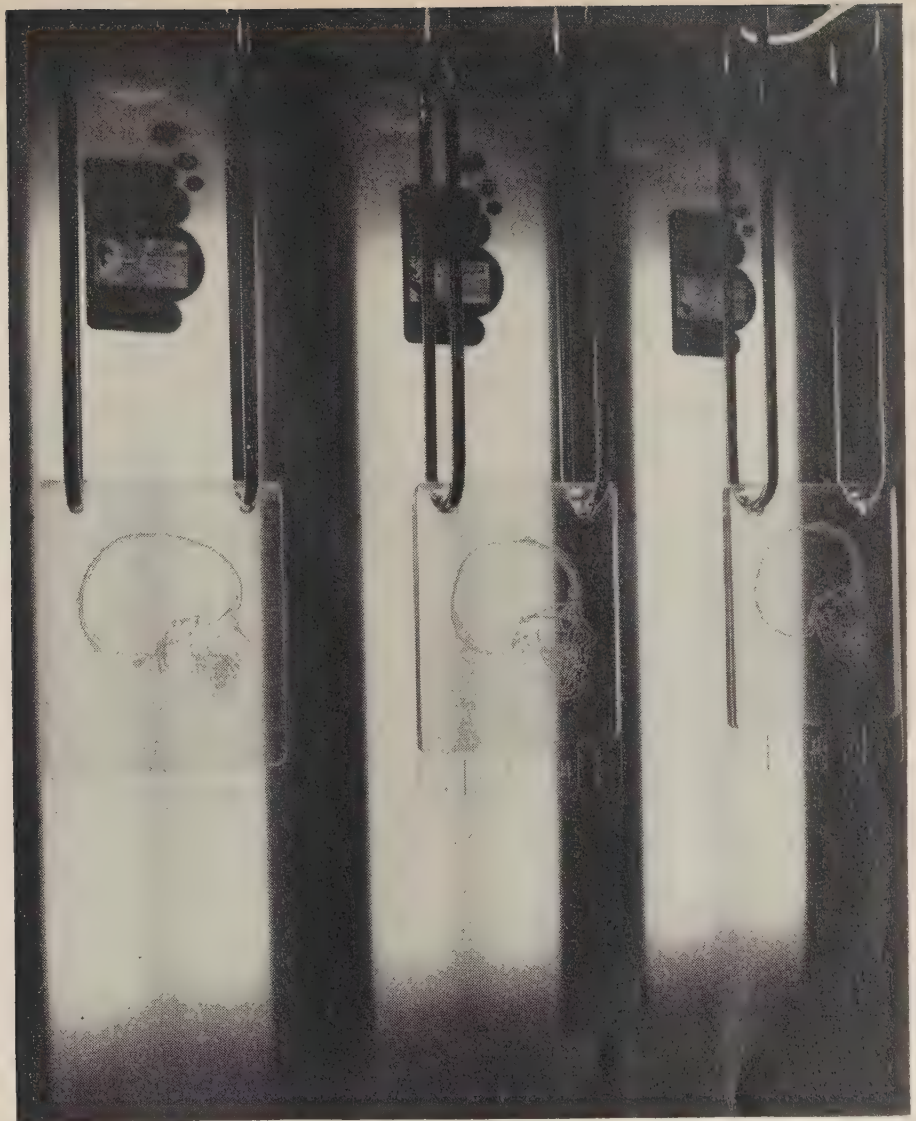
The main exhibit building on the valley floor houses most of the exhibit space and includes workshops, collection and conservation areas, laboratories and a library. Access from the reception building to the exhibit building is by a series of escalators and elevators which descend 90 feet down the side of the valley wall. The escalators are glass-enclosed, permitting a view of the woodland outside during descent.

Exterior walls of all buildings are of rough, pre-cast concrete panels hammered to display the texture of local aggregates. Interior wall finishes are of concrete, compressed wood, fibreboard and panelling in vinyl, cork and wood. Other basic materials include tinted glass and bronze-anodized aluminum for doors and window frames.

The interior spaces, except for the exhibit halls where the displays themselves create the environment, are well lighted by large glass walls, with sweeping,



Stereo x-rays of the dentition allow the viewer to determine the location of an embedded marker in an adult skull.



These superimposed profile tracings help to explain Angle's classification of malocclusion.

though still heavy, concrete ceilings. The textured surfaces and the carpeting add dramatic colour to an otherwise grey monotone interior. Yet all the spaces have an elegance about them, especially the Great Hall in the core building and the pedestrian bridge which typifies one of the themes of the Centre — to relate and contrast the world of technology and the world of nature.

Small visitors to the Centre will gravitate to the children's area with its lots of buttons and levers to play with. Hydrofoils and trains whiz about, lights and sparks flip merrily, laser beams needle through artificial night. Youngsters can pore over a full-size replica of Apollo 8, or may pretend-steer small space capsules, communicate with ground control, fire retro-rockets and even simulate touchdowns — while watching on their own tiny TV screens.

At the core of the Centre's educational program is learning based on the predominantly participational exhibits and individual discovery by visiting students. The exhibits are geared to audience participation which ranges from pushing a button to walking through a disorientation room or actually docking a simulation space capsule with a lunar landing module.

The Ontario Science Centre is a new kind of institution, an educational centre for all ages that seeks to explain science to the public, a place which doesn't so much conserve objects as explain processes, a comfortable and stimulating environment where the public will leave saying, "I've got to know more about that."

We are certain visitors will leave the Ontario Science Centre with a better and more favourable understanding of the art and science of dentistry.

The Association

Ontario restores \$40 grant to CDA

The Board of Governors of the Ontario Dental Association voted November 29 to restore Ontario's per capita grant to the CDA to \$40 in 1970.

The decision, taken near the end of a two day meeting, came on the heels of a unanimous recommendation to this effect from the ODA's six delegates to the CDA Board of Governors: W. J. Spence, D. C. Clee, W. C. Deacon, Ivan Hrabowsky, H. M. Jolley and E. J. Siegel.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on November 30, 1969:

Government Bond Fund — \$13.654 (\$13.754 November 30, 1968; \$13.303 November 30, 1964).

Corporate Bond Fund — \$14.777 (\$14.974 November 30, 1968; \$14.009 November 30, 1964).

Common Stock Fund — \$25.591 (\$27.750 November 30, 1968; \$18.955 November 30, 1964).

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA Retirement Savings Plan, offers three separate investment media; a government bond fund, a corporate bond fund and a common stock fund. Contributions may be allocated wholly or partly to the funds of the contributor's choice. Transfers between funds are allowed without penalty.

The government bond fund, confined to guaranteed government bonds and other guaranteed fixed income securities, offers excellent income with high security. The corporate bond fund, confined to bonds, debentures, preferred shares and other fixed income securities, offers maximum income. The common stock fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

No charges or commissions are payable on joining or withdrawing from the plan.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.

International Items

Dr. Stork installed as FDI president

J. Stork of the Netherlands was installed as president of the Fédération Dentaire Internationale at the FDI's 57th annual session in New York. Dr. Stork succeeds W. Stewart Ross of England. Harold Hillenbrand, retiring executive director of the American Dental Association, was chosen president-elect.

A. Scheinin of Finland was elected speaker of the FDI General Assembly succeeding Hans Freihofer of Switzerland. Named as vice-presidents were: L. J. Baume of Switzerland; J. Charon of France; M. K. Hine of the United States; and Walter Knott of Germany.

Lake Tahoe meeting for periodontists

New surgical approaches to the treatment of periodontal disease and its reinforcement with total case planning will be discussed when the Western Society of Periodontology holds its seventeenth annual meeting at the Sahara Tahoe Hotel, South Lake Tahoe, Nevada, March 13-15, 1970. Further information may be obtained by writing to Ida Eichorst, 925 W. 34th St., Los Angeles, Calif., USA.

Canadian dentists invited to Apr. 8-11 San Diego meeting

The 1970 annual meeting and seminar of the American Academy of Oral Pathology will be held at the Bahia Motor Hotel, San Diego, California, April 8-11. The seminar on "Comparative Oral Pathology" will be presented by R. J. Gorlin of the University of Minnesota.

All interested persons are invited to attend. Further information may be ob-



Regina dentist Velimir Ivanovski (seated) was one of the few Canadians who participated at the joint American Dental Association-Fédération Dentaire Internationale scientific program in New York City last October. Dr. Ivanovski presented a table clinic on impacted teeth. He also demonstrated orthodontic treatment for impacted teeth over the ADA's closed circuit TV network. Seen with Dr. Ivanovski (left) is a fellow Canadian, Ivan Hrabowsky of St. Catharines, Ont.

tained by writing to S. M. Standish, Indiana University School of Dentistry, Indianapolis, Ind. 46202, USA.

Israel dentists to celebrate golden jubilee

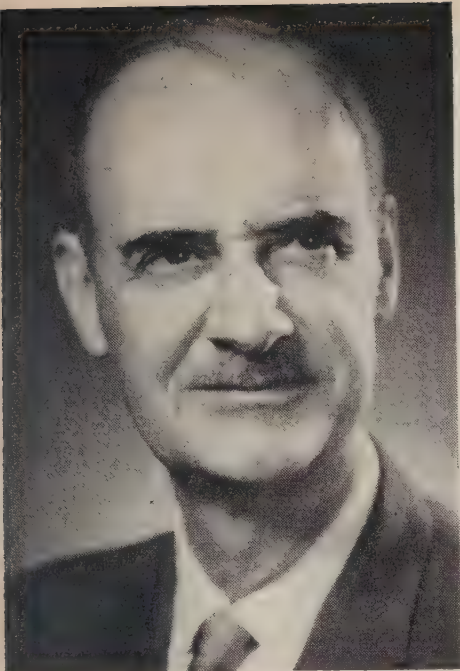
Canadian dentists have been invited to Israel for the Golden Jubilee Congress of the Israel Dental Association. The meeting, to be held in Tel Aviv September 15-18, 1970, will mark the 50th anniversary of the association and organized dentistry in that country.

Further information may be obtained by writing to I. Seifert, PO Box 4115, Tel Aviv, Israel.

Dental Education

Dean Ellis appointed to new University of Toronto post

R. G. Ellis, dean of the Faculty of Dentistry at the University of Toronto, re-



R. G. Ellis

signed his post at the end of December to join the vice-president of health sciences as chairman of the university's Health Sciences Council. The council is responsible for integrating health science programs and improving communications between the various health science divisions in the university.

Dr. Ellis has served as dean of Toronto's dental faculty since July 1947. Ordinarily, he would have retired as dean in about two years' time.

P. G. Anderson, associate dean, has been appointed acting dean until June 30.

New oral biology course at Alberta faculty

The Department of Basic Dental Sciences at the Faculty of Dentistry, University of Alberta, has announced a new 40 hour lecture course in oral biology for second year students. Co-ordinator of the new program is D. Carmichael of the university's Division of Biochemistry.

Principles derived from first year basic science lectures will be applied in the new course to areas of cell biology that are significant to dental science. A further purpose is to integrate the instruction of anatomy, biochemistry and physiology.

Eight faculty members together with lecturers from the university's metabolic, speech and hearing units are participating in the program. Additionally, special visiting lectures have been scheduled by I. Kleinberg of the University of Manitoba, Winnipeg, and A. Veis of Northwestern University, Chicago.

New appointments at Alberta School of Dental Hygiene

Four new appointments were recently announced at the University of Alberta's School of Dental Hygiene. R. J. Dmytruk and Mrs. M. L. Pittman joined the staff on September 1, 1969, as assistant professor and lecturer respectively. The appointments of J. A. Karr as associate professor and Mrs. J. Karr as assistant professor were effective November 1.

Two new appointments at Western U

Dean W. J. Dunn of the Faculty of Dentistry, University of Western Ontario, has announced two new appointments to the academic staff. H. G. Bunston joined the faculty last October 15 as assistant professor in the Department of Restorative Dentistry. S. L. Kogon's appointment as an assistant professor in the Department of Oral Medicine was effective November 1.

Born in Brandon, Man., Dr. Bunston graduated from McGill University's Faculty of Dentistry in 1952. He served with the Royal Canadian Air Force from 1941 to 1945 and with the Royal Canadian Dental Corps, with the rank of major, from 1951 until 1969. During his military service, Dr. Bunston participated in many courses covering a broad spectrum of clinical disciplines.

Dr. Kogon was born in Lachine, Que., and graduated from the Faculty of Dentistry at the University of Toronto in 1965. Since 1968 Dr. Kogon has been enrolled in the Department of Pathology of Western's Faculty of Graduate Studies. He expects to earn a master of science degree shortly. Dr. Kogon has practised in Toronto and London



S. L. Kogon



H. G. Bunston

and holds memberships in both the American and Canadian Academies of Oral Pathology.

Saskatchewan U admits second dental class

The University of Saskatchewan College of Dentistry has admitted its second class of dental students during the recent academic year. All of the 10 regular students are from Saskatchewan. Three are women students. In addition, one other young lady, previously registered in the degree course in nursing, has switched to dentistry and is registered as a special student.

Nine of the 10 students enrolled last year are now registered as second year students. One has transferred to medicine.

Educational opportunities

Advanced programs

Comprehensive courses in clinical periodontics and in periodontics and oral medicine are offered by New York Uni-



These attractive ladies, wives of faculty members, recently organized the University of Western Ontario Dental Wives Club in London, Ont. Seen at the inaugural meeting are: back row (l to r) Mrs. W. J. Dunn, Mrs. J. F. Young, Mrs. D. J. Kenny, Mrs. F. G. Sexton, Mrs. D. S. Sweet, Mrs. J. ter Haar, Mrs. I. R. MacLean, Mrs. O. H. Warwick and Mrs. R. H. Rudell; middle row (l to r) Mrs. C. O. Witmer, Mrs. J. R. Merritt, Mrs. J. A. Lynn, Mrs. B. E. Elliott, Mrs. L. Boksman and Mrs. J. H. Jackson; front row (l to r) Mrs. T. A. Summers, Mrs. R. J. Lingard, Mrs. J. R. Lind, Mrs. A. J. Goldfarb and Mrs. D. M. Lawton. The purpose of the club is to broaden the cultural interests of the members.

versity College of Dentistry. Duration of the program is two academic years as a full-time student or four years as a half-time student. The courses prepare applicants for certification and specialization and have preliminary provisional approval from the Council on Dental Education of the American Dental Association. Direct inquiries to H. L. Ward, Department of Periodontia and Oral Medicine, New York University College of Dentistry, 421 First Ave., New York, NY 10010, USA.

Regional Conventions

Minister urges military service for undisciplined

Quebec Lands and Forests Minister Claude Gosselin has recommended compulsory military service at the age of 16 as a possible cure for a lack of discipline among young people.

Such a solution may be necessary because parents are not doing enough to teach their children a spirit of discipline, Mr. Gosselin told a luncheon audience at the annual Fall Clinic of the Montreal Dental Club.

Mr. Gosselin, whose son is a dental student, warned that the future of his province is in jeopardy because too few young people seek training in skills necessary to develop Quebec.

Too many students are specializing in social sciences like geography so that there is an acute shortage of personnel trained for specialized tasks required in a modern country.

Young people who have acquired habits of discipline will be more apt to train themselves for the needs of a developing society because "it is with discipline that a country is built," the minister emphasized.

Mr. Gosselin said that his own opinion was that every Quebecer should be bilingual.

Economics

Manitoba association backs insurance plan

The Manitoba Dental Association has given its support to the principle of commercial prepaid dental insurance.

According to Harry Tregobov, co-chairman of the MDA Prepaid Dentistry Committee, his association will work with insurance companies to offer dental coverage on a prepaid premium basis. Though the Manitoba association will not sell or administer such coverage, it is ready to act in an advisory capacity to ensure that private carriers sell plans that meet its standards.

The Manitoba association, through a

proposed dental service corporation, visualizes its role in the scheme as a body to:

- Regulate dentists in the provision of services;

- Perform quality control;

- Advise insurance companies of acceptable plans;

- Mediate in patient-insurer-dentist disputes; and

- Continue research into better and more universal coverage.

Announce auxiliary study in Saskatchewan

Saskatchewan Health Minister Gordon Grant has given the green light to a dental pilot project to determine the feasibility of using dental auxiliaries to treat the province's school children. Ottawa will grant \$30,000 toward the first year's cost of the study.

The auxiliaries will be trained to do certain intra-oral operative procedures under the direct supervision of a dentist.

A five man committee will supervise the project. Representing the College of Dental Surgeons of Saskatchewan will be J. A. B. Robinson of Regina and G. H. Peacock of Saskatoon. The University of Saskatchewan College of Dentistry will be represented by Dean K. J. Paynter and C. W. B. McPhail, while the provincial health department will be represented by T. M. Curry, director of dental health.

The committee will determine the supervision required for the dental auxiliaries and will also report on the work that may safely be delegated to them and the financial implications of such a plan being implemented on a province-wide basis.

Oppose technicians' change in Nova Scotia

E. L. MacIntosh, North Sydney, president of the Nova Scotia Dental Association, is opposed to any change in Nova Scotia's Dental Technicians Act which would extend its control into the field of dental mechanics and apprentice dental technicians.

Dr. MacIntosh was commenting on a statement by Darrell Mason, Halifax, president of the Society of Nova Scotia Denturists and Dental Mechanics in which he called for the act to be repealed. A proposed amendment to the act of 1965 would also include a training plan for apprentice dental technicians, dental mechanics and licensing of all affected personnel.

Mr. Mason reportedly said that because of a severe shortage of dentists in the province there must be an extension of the act to permit mechanics to deal directly with the public.

Dr. MacIntosh, who denied there was

a shortage of dentists in Nova Scotia, was supported by George Havlovic, president and executive manager of Associated Laboratories Ltd., Halifax, who said there is approximately one registered dental technician for every six of the province's 170 dentists.

Mr. Havlovic conceded there might be a shortage of dentists on a per capita basis as far as restorative dentistry is concerned, but denied this was the case concerning prosthodontics.

Mr. Havlovic termed the claim that at least 60 per cent of dentures are fabricated illegally as "conjecture." He also rejected an allegation that dentists receive no formal training in dental technology.

Ontario to provide dentists

According to press reports, Ontario Health Minister Thomas Wells told the Ontario Hospital Association convention October 28 of new government plans to provide physicians and dentists to about 50 or 60 designated areas now lacking these services.

The health department plans on employing general practitioners on a contract basis for these areas.

Dentists will be guaranteed annually an income of \$22,000 when assigned to a designated area. They will practise on a fee-for-service basis with the department making up any deficit in the guaranteed annual net income. If the practice results in higher amounts, the dentist can keep this remuneration.

Ontario MPP's want dental coverage

Expansion of Ontario's medicare program to include prescription drugs and dental care has been urged by an all-party committee of the provincial legislature.

The group—composed of 21 members of the Standing Committee on Health—made the surprise demand in a report to the legislature November 28. Its chairman, R. T. Potter, conceded that the committee had "no authority to report on this" but felt that the matter was too important to overlook.

Escalating health care costs must be curbed, health ministers told

The entire system of health service delivery must be revamped to restrain increases in the cost of health care. So said a report considered by the federal-provincial conference of ministers of health in Ottawa November 25.

The report, which expressed concern over "a steady rise of more than 10 per cent annually in health care costs," was prepared by a committee and

seven task forces authorized by the ministers in November 1968. Members of the task forces were chosen from universities, hospitals, professional associations and government.

Research

Electricity may correct bone problems

American investigators will try to determine if electricity can be used to restore diseased and injured bone and to help straighten malaligned teeth. The project could develop new and improved treatment for a variety of dental problems. In periodontal disease, teeth become loose when supporting bone is resorbed. In edentulous patients, erosion of the jawbone often makes it difficult to fit them with dentures. At present such bone loss cannot be corrected.

A. L. Bassett, Columbia University, New York, will conduct animal studies to determine if electricity can correct bone problems. Dr. Bassett has found that negative electrodes can stimulate bone production while a positive electrode is associated with diminished bone formation. He has demonstrated also that pressure produces a type of electricity in bone. These findings may explain how pressure can reshape bone.

Orthopaedists and orthodontists have used such pressure for some time. When an orthodontist puts wires on teeth to move them, he knows that the force is transmitted to the periodontal ligament and the supporting bone. Thus, the teeth are realigned. Dr. Bassett has been able to detect electricity produced in bone from forces similar to those exerted by orthodontic appliances. He reasons that it might be possible to alter bone more directly with electrical currents. Then electricity might become a new tool for treating dental and bone disorders.

Miniature transmitters test biting pressures

Miniaturized radio transmitters placed in living teeth have helped scientists measure forces used in biting and have demonstrated that periodontal disease may often be caused by simple injury to the gingiva from improper occlusion.

Irving Glickman of Boston maintains that trauma to the gums and supporting tissues has long been recognized as being responsible for change in the tissues.

Previously, however, changes from trauma were not connected to gum diseases. "For more than 50 years it has been considered a disease entity separate from periodontitis. In periodontitis,

the periodontal pockets and tissue destruction were thought to be produced by inflammation. If trauma from occlusion was present, it was supposed to be unrelated to the destruction and tooth loss caused by the inflammation," he said.

But results of recent intra-oral telemetry with radio transmitters have proved conclusively that "periodontitis is an occlusion-linked disease," Dr. Glickman stated, adding: "Occlusion is therefore a factor in all periodontal disease."

Microscope elucidates cortisone-induced cleft palates

American researchers are using several new methods to determine how cleft lip and palate develop. One technique, injecting cortisone into pregnant mice, produces a high percentage of clefted offspring. Recent electron microscope studies provide an explanation of how this drug works and a better understanding of the way some spontaneous clefts may form.

When V. DeAngelis of Harvard University examined palatal shelves with an electron microscope, he found that mesenchymal cells from cortisone-treated embryos contain far less glycogen than do tissues from control embryos. Because glycogen is such an important energy source, this finding suggests that cortisone creates clefts by depriving shelves of energy. The chemical power of glycogen probably helps cells manufacture and aggregate mucopolysaccharide gels. The gels, in turn, are thought to give the shelves energy and enough elasticity to rotate, in wave-like motions, from the vertical to the horizontal position where they meet and fuse.

In this way cortisone could slow down rotation. If, during this critical stage, lateral head growth proceeded normally, then by the time the shelves reached the horizontal position, they would be too far apart to touch and fuse.

Test anticariogenic plastic paint

A new plastic paint to prevent occlusal caries is being tested at the Eastman Dental Centre in Rochester, New York.

Michael Buonocore, who is conducting the study, already has shown the practicability of this approach. With another resin he obtained an 86 per cent reduction in decay after one year even though that material was more difficult to apply and in some cases became dislodged.

The new thin material, however, is quite easy to use, requires no drilling, and in preliminary tests has remained adherent for more than one year. It is painted on much like nail polish, but

does not harden until exposed to an ultra-violet (UV) light. Long-wave UV rays activate an agent in the resin that makes the plastic set immediately.

The dentist or hygienist paints the teeth that are to be protected from decay and then shines a gun-shaped UV flashlight on them. This changes the colourless liquid adhesive to a hard, smooth, nearly-invisible film.

If its effectiveness is confirmed, this easily applied therapeutic agent could be made available to large numbers of children, save countless man-hours of already overburdened dentists and free much of their time for diagnosis and treatment of more difficult problems in many other patients. It also could be a boon to the handicapped who cannot brush their teeth or submit to long operative procedures and to people living in areas where there is a scarcity of dentists.

In addition, Dr. Buonocore will try to anchor orthodontic wires with the adhesive and fill small cavities or line larger ones with it. An adhesive liner might seal metal, plastic or cement fillings and stop decay-causing debris from creeping in between the filling and the tooth. Still other potential uses are to cover unattractive, poorly calcified or stained teeth and to repair broken edges on front teeth.

Public Health

New appointment for Dr. McCabe

C. A. E. McCabe, dental public health officer of the Dental Health Division, Department of National Health and Welfare, retired from the federal public service in August. He has accepted a new appointment as regional dental officer for Ontario's St. Lawrence and Ottawa Valley District Health Unit.

Dr. Langstroth Retires

R. S. Langstroth has retired after 21 years as director of the Dental Health Division, New Brunswick Department of Health and Welfare. Dr. Langstroth, a native of Sussex, NB, held the position since he joined the provincial government in September 1948. Previously, he was the district supervising dentist with the Department of Veterans Affairs.

Tax candy, restrict sales to combat dental caries

A Swedish dental scientist has suggested taxes on candy and restricted sales of sweets as a possible means of combatting caries. Bo Krasse of Göteborg, Sweden, made the proposal in New York recently.

Sucrose contained in candy is of decisive importance for the colonization of polysaccharide-producing, decay-conducive streptococci on the teeth, he said. Massive public health education programs by the dental profession should be one avenue of attempting to reduce the consumption of sweets, he declared, adding: "Other steps may include a tax imposed on candy and restriction on candy sales to children near movie theatres."

Dr. Krasse said that both steps have been considered by the dental profession in Sweden in consultation with the Swedish health department. "Restricting the sale of candy proved unfeasible because of interfering with freedom of business," he explained. But "high taxes are of course conceivable and by such the consumption of sucrose would be governed in the same way as tobacco and alcohol. Putting sucrose in line with tobacco and alcohol might seem too drastic but there is no principal difference: cigarette smoking is a hazard to health and frequent eating of sucrose in sticky form is bad for the teeth," Dr. Krasse said.

Fluoridation

Fluoridation reduces cost for corrective treatment

Fluoridation cuts corrective dental treatment costs in half in children who receive the measure from birth, according to a New York State public health official.

D. B. Ast of Albany, NY, compared results of a six year study on regular dental care for children in fluoridated

Newburgh, NY, and fluoride-deficient Kingston, NY. "The cost for corrective care for children with lifelong exposure to fluoridated water is less than half of what it costs in a non-fluoridated area and incremental care is just about half," he stated.

Dr. Ast noted that 157 Newburgh children out of 387 were completely free of decay as compared to only 63 out of 379 Kingston children.

"With regard to the progression of disease, at initial examination and in each incremental year, the Kingston children required more restorations than did their counterparts in Newburgh. This is reflected in the cost for corrective services and in the required chair time, with the costs more than twice as high in Kingston and chair time more than one and one-half times that in Newburgh," he explained.

Dr. Ast said these findings were also confirmed in a similar New Zealand study.

Awards and Appointments

The Central Alberta Dental Society recently presented life membership scrolls and engraved plaques to three Red Deer district dentists in recognition of their long service to dentistry and their community. The recipients were **C. J. Greene**, Innisfail, and **L. H. Wright** and **W. R. Aunger**, both of Stettler.

Honorary life memberships have been conferred by the Essex County (Windsor, Ontario) Dental Society on **William Atkinson**, **O. C. Baker**, **S. A. Brown**, **R. W. Cunningham**, **A. L. Meredith** and **R. J. Reid**, all of Windsor; **H. M. Brad-**

ley and **D. D. MacMillan** of Leamington; **R. R. Hudgins** of Kingsville; and **T. F. Wiese** of Belle River. Each dentist has at least 45 years' experience with a total of almost 500 years.

C. F. Cappa, London, has been appointed editor of the *Journal of the Ontario Dental Association*. He succeeds **J. H. Johnson**, Toronto. At its November 28-29 meeting, the Board of Governors of the Ontario Dental Association presented a silver rose bowl and accorded a standing ovation to Dr. Johnson for his services as editor.

Deaths

Christie, John Andrew, 56. Norwood Man. University of Alberta, 1938. 10-10-69.

Downton, Raymond Albert, 46. St. John's, Nfld. Dalhousie University, 1955. 28-11-69.

Doyon, Lévis, 62. Victoriaville, Qué. Université de Montréal, 1931. 21-10-69.

Langlois, Charles Henri, 69. Lachine, Qué. Université de Montréal, 1925. 18-11-69.

Long, Victor Carman. Toronto. Royal College of Dental Surgeons of Ontario, 1920. 24-11-69. Survived by Beatrice Louise (wife); Alan (son); Bea, Vicky, Jim and Mary (grandchildren); Dr. J. E. Long (brother); and Mrs. W. A. Adams (sister).

O'Connor, Thomas Henry, 73. Toronto. Royal College of Dental Surgeons of Ontario, 1925. 16-11-69. Survived by Alice M. (wife); T. Peter (son); Mrs. R. E. Sparrow (daughter); and Mrs. Thomas Baker (sister).

Up Through the Ranks—There is not of necessity any such thing as the free hired labourer being fixed to that condition for life. Many independent men everywhere in these States a few years back in their lives were hired labourers. The prudent, penniless beginner in the world labours for wages awhile, saves a surplus with which to buy tools or land for himself, then labours on his own

account another while, and at length hires another new beginner to help him. This is the just and generous and prosperous system which opens the way to all, gives hope to all, and consequent energy and progress and improvement of the condition to all. No men living are more worthy to be trusted than those who toiled up from poverty; none less inclined to take or touch aught

which they have not honestly earned. Let them beware of surrendering a political power which they already possess, and which if surrendered will surely be used to close the door of advancement against such as they and fix new disabilities and burdens upon them till all of liberty shall be lost.—Abraham Lincoln. Message to the United States Congress, 1861.

L'Association

Le président McLean encourage les cabinets groupés

Le président de l'Association dentaire canadienne, le Dr H. R. McLean, a fait une allocution durant le Fall Clinic du Montreal Dental Club le 3 novembre, dans laquelle il a encouragé la profession à développer des cabinets groupés pour soigner et prévenir les maladies dentaires "qui sont plus communes même que le rhume ordinaire".

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 30 novembre 1969:

Fonds d'obligations gouvernementales – \$13.654 (\$13.754 le 30 novembre 1968; \$13.303 le 30 novembre 1964).

Fonds d'obligations corporatives – \$14.777 (\$14.974 le 30 novembre 1968; \$14.009 le 30 novembre 1964).

Fonds d'actions ordinaires – \$25.591 (\$27.750 le 30 novembre 1968; \$18.955 le 30 novembre 1964).

Le paragraphe 79B de la loi régissant l'impôt sur le revenu autorise des contributions non imposables à un programme de retraite personnelle, représentant jusqu'à 20 p.c. du revenu, avec un maximum de \$2,500.

La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC, offre trois sortes de placements distincts: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les contributions peuvent être faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

Le fonds d'obligations gouvernementales, qui se compose uniquement de bons du trésor et autres sécurités à revenu fixe, offre un très bon revenu avec un risque très faible. Le fonds d'obligations corporatives, qui se compose de bons, d'obligations, d'actions privilégiées et d'autres sécurités à revenu fixe, offre un revenu maximum. Le fonds d'actions ordinaires, qui se compose d'actions ordinaires canadiennes, américaines et étrangères

soigneusement choisies, a comme objectif principal l'augmentation du capital.

L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.

Le Canada

Les denturologistes du Québec à l'attaque

L'Association des denturologistes du Québec vient de présenter une requête pour obtenir un bref d'évocation et faire déclarer "ultra vires" la loi provinciale régissant le Collège des chirurgiens-dentistes de la province de Québec.

Dans leur requête, les denturologistes soumettent "que la loi des chirurgiens-dentistes du Québec et plus particulièrement l'article 134 de cette loi est discriminatoire, irrégulièrement adoptée, illégale et ultra vires des pouvoirs de la législature provinciale du Québec"; et, en plus, qu'en légiférant sur des matières relatives au commerce et à l'industrie, elle empiète sur les pouvoirs exclusifs du parlement fédéral en de telle matières...".

Et dans un autre paragraphe, il est soumis "que cette loi provoque la commission d'infractions par les techniciens dentaires en leur préparant des "coups montés" par l'entremise d'agents provocateurs sous le contrôle direct du Collège des chirurgiens-dentistes et ou de ses préposés et agents".

Il est aussi dit "que la loi des chirurgiens-dentistes crée un monopole indu, arbitraire et sectaire en faveur d'une classe particulière, soit les dentistes...".

"Et qu'elle empêche un groupe de professionnels compétents d'exercer directement leur art pour la population; qu'elle oblige le public en général à acquitter des honoraires indus et non justifiés à des dentistes ou à des chirurgiens-dentistes qui ne font que servir d'intermédiaires entre le public et le spécialiste, à savoir le technicien dentaire dont la formation académique et technique est des plus rigoureuses et scientifiques".

Chronique internationale

Le Dr Stork devient président de la FDI

J. Stork des Pays-Bas est entré en fonctions comme président de la Fédération dentaire internationale lors du 57^e Congrès annuel de la FDI à New York. Le Dr Stork succède au Dr W. Stewart Ross de la Grande-Bretagne. Harold Hillenbrand, Directeur Exécutif sortant de l'Association dentaire américaine a été choisi comme président désigné.

A. Scheinin de la Finlande a été élu président de l'assemblée générale de la FDI en remplacement de Hans Freihofer de Suisse. Ont été nommés vice-présidents: L. J. Baume de Suisse; J. Charon de France; M. K. Hine des Etats-Unis et Walter Knott d'Allemagne.

L'économie

Etude sur les auxiliaires en Saskatchewan

M. Gordon Grant, ministre de la Santé de la Saskatchewan, a donné le feu vert à une étude dentaire qui aura pour but de déterminer s'il est possible d'employer des auxiliaires dentaires pour rendre des soins aux écoliers de la province. Ottawa octroiera \$30,000 qui serviront à payer les frais de cette étude durant la première année.

Les auxiliaires apprendront à accomplir certains traitements opératoires dans la bouche sous la surveillance directe d'un dentiste.

Cette recherche sera placée sous le contrôle d'un comité de cinq membres: J. A. B. Robinson de Regina et G. H. Peacock de Saskatoon, représentant le Collège des chirurgiens-dentistes de la Saskatchewan; le Doyen K. J. Paynter et C. W. B. McPhail, représentant la faculté de chirurgie dentaire de l'université de la Saskatchewan; enfin, T. M. Curry, directeur de l'hygiène dentaire représentant le ministère provinciale de la Santé.

Le comité aura pour tâche de déterminer le degré de surveillance dont les auxiliaires auront besoin et il fera rapport sur le travail qui peut leur être délégué sans risque, ainsi que sur les implications financières qu'aurait la

mise en pratique de ce projet dans toute la province.

Opposition au changement de la loi des techniciens en Nouvelle-Ecosse

Le Dr E. L. MacIntosh de North Sydney, président de l'Association dentaire de la Nouvelle-Ecosse s'est opposé à tout changement de la Loi des Techniciens dentaires de la Nouvelle-Ecosse qui agrandirait le contrôle de cette loi dans le domaine des mécaniciens dentaires et des apprentis techniciens dentaires.

Le Dr MacIntosh critiquait une déclaration de Darrell Mason, de Halifax, président de la Société des Denturologistes et des Mécaniciens dentaires de la Nouvelle-Ecosse qui réclamait l'abrogation de cette loi. Un amendement proposé à la loi de 1965 comprendrait également un programme de formation des apprentis techniciens dentaires et des mécaniciens dentaires, ainsi que l'attribution du permis de travail à tout le personnel concerné.

M. Mason aurait déclaré que la grave pénurie de dentistes dans la province rendait nécessaire un élargissement de la loi pour permettre aux mécaniciens d'avoir directement affaire au public.

Le Dr MacIntosh, qui a nié qu'il y eût pénurie de dentistes en Nouvelle-Ecosse, a reçu l'appui de M. George Havlovic, président et directeur de l'Associated Laboratories Ltd., à Halifax, et selon lequel il y a environ un technicien dentaire inscrit pour six dentistes (la province compte 170 dentistes).

M. Havlovic a admis qu'il pouvait y avoir pénurie de dentistes d'après le nombre d'habitants en ce qui concerne la dentisterie restauratrice, mais que ce n'était pas le cas pour la prosthodontie.

M. Havlovic a qualifié de "conjecture" l'affirmation qu'au moins 60 p.c. des dentiers étaient fabriqués illégalement et il a également rejeté l'allégation que les dentistes ne reçoivent pas de formation en technologie dentaire.

L'Ile-du-Prince-Edouard étudie la productivité du dentiste

Le ministère de la Santé de l'Ile-du-Prince-Edouard a entrepris une étude qui a pour but d'évaluer de combien peut augmenter la productivité d'un dentiste assisté d'hygiénistes dentaires ayant reçu une formation spéciale pour certaines tâches supplémentaires.

L'été dernier, trois hygiénistes dentaires—Dorothy Coughlin de Cascumpec et Hazel MacRae de Bonshaw (I.-du-P.-E.) et Rosa Obrigewitsch de Saskatoon — ont été spécialement entraînées pour cette étude au Département de Dentisterie opératoire de l'université Dalhousie. Elles ont appris à placer des obturations dans des cavités préparées par un dentiste, et à remplir certaines autres tâches.

R. G. Romcke, directeur dentaire provincial, déclare que l'on mesurera soi-

gneusement la quantité de services dentaires qu'un dentiste est en mesure de dispenser avec et sans l'aide d'une hygiéniste. Selon les premières indications, le gain de productivité dépasserait 50 p.c.

Cette étude a reçu un octroi fédéral pour la recherche en hygiène publique et est effectuée dans une clinique spéciale et plusieurs cabinets privés. A la clinique, les traitements sont dispensés par le Dr P. G. Creighan, qui a résidé à Charlottetown et à Halifax.

Le Dr Creighan a trouvé précieuse la coopération de l'Association dentaire de l'Ile-du-Prince-Edouard. Il déclare que les dentistes de cette province s'intéressent beaucoup aux méthodes nouvelles qui leur permettront de traiter un plus grand nombre de patients.

L'Ontario fournira des dentistes aux régions qui en manquent

Selon des informations publiées par la presse, M. Thomas Wells, ministre de la Santé de l'Ontario, a déclaré le 28 octobre devant le congrès de l'Association des hôpitaux de cette province, que son gouvernement prévoit de fournir des médecins et des dentistes aux 50 ou 60 régions qui en manquent.

Pour ces zones-là, le ministère de la Santé compte passer un contrat avec les omnipraticiens qu'il emploiera.

Les dentistes nommés dans une zone désignée seront assurés d'un revenu

Lors du dernier congrès de l'Association dentaire canadienne tenu à Montréal, l'Académie canadienne des sciences dentaires rendait hommage à l'un de ses fondateurs et gouverneurs, le docteur Paul Geoffrion, ancien doyen de la Faculté de chirurgie dentaire et fondateur du département d'orthodontie de l'Université de Montréal. A cette occasion, le président, le docteur Germain Auger (à gauche) chirurgien-dentiste (Trois-Rivières), remettait au docteur Jean-Paul Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, un portrait du docteur Paul Geoffrion.



Le docteur Geoffrion entouré de quelques amis: Dr A. W. S. Wood, membre de l'exécutif du Collège royal des chirurgiens-dentistes du Canada; Dr T. H. Wachna de Windsor; Dr R. L. Scott, président sortant du Collège royal; Dr Albert Vachon d'Ottawa; Dr Frank Shamy de Montréal; Dr J. E. Speck, secrétaire du Collège royal; et le Dr W. G. McIntosh, secrétaire de l'Association dentaire canadienne.



annuel de \$22,000. Ils seront rétribués par paiement à l'acte, le ministère comblant tout déficit du revenu annuel garanti. Au cas où le dentiste atteindrait une rémunération supérieure au revenu garanti, il aura le droit de la conserver.

Le livre blanc sur la fiscalité prévoit une forte réduction des frais déductibles

Le livre blanc du gouvernement fédéral sur la fiscalité propose de supprimer toute déduction des frais encourus pour assister aux congrès et des droits d'adhésion aux clubs sociaux ou récréatifs.

Les membres des professions libérales, comme les dentistes, qui ne sont pas incorporés en sociétés devront adopter un système de comptabilité d'exercice au lieu de pouvoir choisir la comptabilité de gestion. C'est-à-dire qu'ils devront tenir compte des sommes qu'on leur doit et des sommes qu'ils doivent pour calculer leur revenu imposable. Pour amortir le choc de ce changement, ces contribuables déclareraient chaque année le plus fort du revenu calculé selon les sommes encaissées ou du revenu calculé selon les comptes d'exercice jusqu'à ce que la totalité du revenu acquis (et présentement différé) soit inclus dans le revenu imposable.

Nouvelle nomination à la Régie de l'assurance-maladie

Un troisième représentant de la profession médicale a été nommé comme membre de la Régie de l'assurance-maladie du Québec. Il s'agit du Dr Gustave Auger, de Québec, qui a été nommé à la recommandation des deux fédérations de syndicats médicaux, soit la Fédération des médecins spécialistes du Québec, représentée par le Dr Raymond Robillard et la Fédération des médecins omnipraticiens du Québec, représentée par le Dr Gérard Hamel.

Il faut noter que les dentistes sont représentés par le Dr Auguste Mockle, D Ph, vice-doyen de la Faculté de Pharmacie de l'Université de Montréal.

La recherche

Le microscope révèle le rôle de la cortisone dans la formation des fissures palatines

Des chercheurs américains utilisent plusieurs nouvelles méthodes pour étudier la formation du bec de lièvre et de la fissure palatine. En injectant de la cortisone à des souris pleines, on obtient un fort pourcentage de sujets à la

lèvre et au palais fissurés. Des études récentes effectuées au microscope électronique fournissent une explication sur l'action de cette drogue et permettent de mieux comprendre la façon dont certaines fissures spontanées peuvent apparaître.

En examinant des rebords palatins au microscope électronique, V. DeAngelis de l'université Harvard a découvert que les cellules mésenchymales d'embryons traités à la cortisone contenaient beaucoup moins de glycogène que les tissus des embryons témoins. Le glycogène étant une source d'énergie de première importance, cette découverte laisse penser que la cortisone provoque des fissures en privant les rebords d'énergie. Chimiquement le glycogène aide sans doute les cellules à fabriquer et à amasser des gels de mucopolysaccharides. Le rôle de ces gels serait de donner aux rebords de l'énergie et assez d'élasticité pour leur permettre de tourner, en mouvements ondoyants, de la verticale à l'horizontale, position où ils se rencontrent et se soudent.

La cortisone pourrait ainsi ralentir la rotation. Si, au cours de cette étape critique, la croissance latérale de la tête se poursuivait normalement, les rebords se trouveraient trop éloignés pour s'atteindre et se souder en arrivant à la position horizontale.

Des émetteurs miniatures mesurent les forces intrabuccales

Des émetteurs radio miniaturisés placés dans des dents vivantes ont aidé les chercheurs à mesurer les forces exercées en mordant et ont démontré que la maladie périodontaire peut souvent être causée par une simple blessure à la gencive due à une mauvaise occlusion.

Irving Glickman, de Boston, explique que le traumatisme aux gencives et aux tissus de support est reconnu depuis longtemps comme cause de modification dans ces tissus.

Cependant, on n'associait pas aux maladies gingivales les modifications dues au traumatisme. Depuis plus de 50 ans, on l'a considéré comme une maladie différente de la périodontite. Dans la périodontite, les poches périodontiques et la destruction de tissu étaient attribuées à l'inflammation. Si l'on était en présence d'une blessure due à l'occlusion, on supposait qu'elle n'était pas liée à la destruction et à la perte de dents causées par l'inflammation, a-t-il dit.

Mais les résultats d'études téléométriques intrabuccales récentes effectuées à l'aide d'émetteurs radio ont prouvé de façon certaine que "la périodontite est une maladie liée à l'occlusion", a déclaré le Dr Glickman en ajoutant: "l'occlusion est par conséquent un facteur dans toute maladie périodontaire".

Une couche de plastique anti-carie à l'essai

Une couche de plastique destinée à prévenir la carie des surfaces occlusales est à l'essai au Eastman Dental Centre, à Rochester, New York.

Michael Buonocore, le responsable de cette recherche, a déjà démontré que cette méthode était réalisable. Avec une autre résine, il a obtenu une diminution de 86 p.c. de la carie après un an, même si ce produit était d'application plus difficile et s'était détaché dans certains cas.

La nouvelle matière est fluide, très facile à employer, ne demande pas de forage et au cours des essais préliminaires est restée attachée pendant plus d'un an. Il s'applique presque comme un vernis à ongles mais ne durcit que lorsqu'il est exposé à une lumière ultraviolette. Les rayons UV à forte longueur d'onde activent un produit contenu dans la résine qui fige le plastique immédiatement.

Le dentiste ou l'hygiéniste applique la couche sur les dents à protéger de la carie puis les expose aux rayons UV d'une lampe-torche en forme de pistolet. L'adhésif liquide et incolore se change alors en une pellicule dure, lisse et presque invisible.

Si son efficacité se confirme, cet agent thérapeutique d'application facile pourrait être employé chez un grand nombre d'enfants, épargner d'innombrables heures de travail au dentiste par ailleurs surchargé et le rendre plus libre pour diagnostiquer et traiter des affections plus graves qui existent chez d'autres patients. Il pourrait être particulièrement précieux aux handicapés qui ne peuvent pas se brosser les dents ou se soumettre à de longs traitements opératoires, ainsi qu'aux personnes vivant dans des régions qui manquent de dentistes.

De plus, le Dr Buonocore va mettre l'adhésif à l'épreuve pour ancrer les fils orthodontiques, obturer les petites préparations ou le placer comme fond de cavité. Un fond de cavité adhésif pourrait sceller les obturations de métal, de plastique ou de ciment et empêcher les débris générateurs de carie de pénétrer entre l'obturation et la dent. L'adhésif pourrait encore servir à recouvrir les dents laides mal calcifiées ou tachées, et à réparer les bords de dents antérieures.

La fluoruration

“Le maire Drapeau porte-t-il oui ou non un dentier?”

“Le maire Drapeau porte-t-il oui ou non un dentier?” Voilà la question que pose Mme Céline Legaré, journaliste au magazine *Perspectives*, dans le numéro du 19 octobre.

Tout en expliquant très intelligemment les bienfaits de la fluoration, Mme Legaré se demande "Mais pourquoi est-il important de savoir si, à 53 ans, le maire Drapeau qui, de toute évidence, a perdu ses cheveux, conserve ses canines, ses incisives et ses molaires pour mordre au pouvoir comme dans les fruits de la vie?"

C'est que la réponse à cette question nous permettrait peut-être de comprendre l'attitude du maire vis-à-vis une mesure que la Ville de Montréal a approuvée en 1953 et qui n'a jamais été mise en pratique: la fluoration de l'eau.

Si le maire Drapeau portait un dentier, on s'expliquerait alors pourquoi il s'oppose farouchement à ajouter à l'eau potable des Montréalais une partie d'ion-fluor par million de parties d'eau.

Soit qu'il se vengerait ainsi sur tous les dentistes de celui qui l'a édenté autrefois, compromettant sa digestion et la fougue de ses baisers. Car les dentistes recommandent fortement la fluoration, à commencer par le doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, le Dr Jean-Paul Lussier.

Soit que l'ivoire artificiel de sa bouche ne risquant plus de s'abîmer, il se désintéresse tout simplement d'un procédé qui prévient la carie dentaire dans les proportions de 65 p.c."

Et la lutte continue.

Demandez le rapport sur la fluoration!

L'Association dentaire canadienne vient de publier un rapport intitulé: "La fluoration au Canada au 1er janvier 1969". Il contient l'avant-propos suivant:

Au début de 1969, 6,614,000 Canadiens consommaient chaque jour de l'eau fluorée (y compris les 200,000 utilisant celle qui contient du fluorure naturel). Ce sont les habitants de 520 communautés desservies par 533 réseaux de canalisation d'eau. Ces chiffres représentent 30.9 p.c. de la population entière et 44.3 p.c. du total accessible à la fluoration (ceux qui sont desservis par aqueduc).

Sur l'ensemble de la population, le Manitoba détient le nombre le plus élevé de consommateurs d'eau fluorée, soit 62.0 p.c., suivi en cela par l'Ontario avec 55.3 p.c. et par les Territoires du Nord-Ouest avec 52.4 p.c. Le Manitoba est encore le premier par son accessibilité à la fluoration avec 90.4 p.c. desservis par aqueduc, les Territoires du Nord-Ouest se plaçant deuxième avec 89.0 p.c. et la Nouvelle-Ecosse troisième avec 73.3 p.c. Tous les territoires et provinces figurent dans

les listes, y compris l'Île-du-Prince-Edouard et le Nouveau-Brunswick depuis 1968.

Pendant la même année 353,000 autres Canadiens ont commencé à utiliser de l'eau fluorée. Il faut toutefois tenir compte de la croissance de la population du pays, recensée à 339,000 personnes par rapport à l'année précédente. L'Ontario, l'Alberta et la Colombie britannique furent les principaux responsables de la plus grande partie de cette augmentation.

La progression de la fluoration contrôlée fut modeste en 1968, bien qu'elle ne représente pas moins de 50 communautés et 47 réseaux de canalisation d'eau, malgré l'assimilation administrative de certaines communautés et leur retrait des listes. L'eau potable parvient par aqueduc à 72.1 p.c. de la population canadienne par rapport à 71.1 p.c. il y a un an. L'urbanisation étend donc constamment les possibilités de fluoration.

La plupart des ministères provinciaux de la santé prêchent le thème de la fluoration pour prévenir la carie dentaire. Au moins trois provinces offrent de participer au coût d'installation au moyen de subventions. Certaines exigent le référendum populaire ou en donnent les moyens, tandis que d'autres délèguent aux autorités locales les pouvoirs nécessaires pour traiter l'eau au fluorure comme elles le font déjà pour l'épuration. Les efforts faits en Colombie britannique sont gênés par un statut provincial prescrivant le référendum et au moins 60 p.c. des voix pour l'adoption des procédés de fluoration.

En 1968, 19 référendums, dont 11 ont eu un aboutissement favorable, furent signalés en tout dans les seules provinces de la Colombie britannique, de l'Alberta et de l'Ontario. La réglementation de la plupart des provinces charge les conseils municipaux ou régionaux des décisions à prendre sur la question de la fluoration, bien que cette attribution, selon les tendances aux Etats-Unis du moins, semble revenir de plus en plus à l'Etat. Des statuts imposant la fluoration étaient en vigueur à la fin de l'année dans les états du Connecticut, du Minnesota, de l'Illinois, du Delaware et du Michigan, et la même perspective s'annonçait pour le Dakota du Sud et l'Ohio.

On peut se procurer sans frais une copie du rapport—ou un nombre limité de copies—en écrivant au Bureau des renseignements au public, L'Association dentaire canadienne, 234 rue St. George, Toronto 180, Ontario.

Le Bureau des renseignements au public tient aussi à votre disposition une trousse d'information sur la fluoration qui a toujours été très utile aux personnes soucieuses d'obtenir les

bienfaits de la fluoration dans leur localité.

L'hygiène publique

Taxer les bonbons et en limiter la vente pour combattre la carie

Un chercheur dentaire suédois a proposé de taxer les bonbons et d'en limiter la vente pour combattre la carie. Le Dr Bo Krasse de Göteborg, Suède, a présenté cette suggestion lors d'une réunion scientifique tenue récemment à New York.

Le sucre contenu dans les bonbons joue un rôle décisif dans la formation sur les dents de colonies de streptocoques qui produisent des polysaccharides et favorisent la carie. De vastes programmes d'éducation en hygiène publique organisés par la profession dentaire contribueraient à la réduction de la consommation de bonbons, et il a ajouté: "D'autres mesures pourraient inclure une taxe sur les bonbons et une restriction à la vente de bonbons aux enfants près des salles de cinéma".

Le Dr Krasse a déclaré que la profession dentaire suédoise avait examiné ces deux mesures en consultation avec le ministère de la santé. "La restriction de la vente de bonbons s'est révélée irréalisable car elle faisait obstacle à la liberté du commerce". Mais "de fortes taxes sont, bien entendu, concevables et ainsi la consommation de sucre serait régie de même façon que la consommation de l'alcool ou du tabac. Comparer le sucre au tabac et à l'alcool peut paraître excessif, mais il n'y a pas de différence essentielle: la cigarette constitue un danger pour la santé et la consommation fréquente de sucre en présentation collante est mauvaise pour les dents", a déclaré le Dr Krasse.

Le Dr McCabe change de poste

Le Dr C. A. E. McCabe, administrateur de l'hygiène dentaire publique à la division de l'hygiène dentaire du ministère de la Santé nationale et du Bien-être social, a quitté la fonction publique fédérale au mois d'août. Il a accepté un nouveau poste au service de la province de l'Ontario en tant qu'administrateur dentaire régional de la Division de l'hygiène pour la région du Saint-Laurent et de la vallée de l'Outaouais.

Le Dr McCabe, qui a habité Valleyfield et Montréal, a également travaillé au service de la Ligue d'hygiène dentaire de la province de Québec.

Rising US malpractice awards pose problem to profession

Dental malpractice claims are becoming one of the most serious problems for practising dentists in the United States.

An increasingly claims-minded public coupled with a rise in the number of people visiting the dentist could lead to a "potentially explosive situation," according to Boston dentist C. A. Levinson, an authority on dental jurisprudence.

"Today people are money-conscious and suit-conscious," he says, adding that the amount of damages awarded by American judges and juries is becoming so great that some insurance firms are reticent about writing malpractice insurance for dentists.

With increasing frequency, juries are holding the dentist negligent if he failed to take diagnostic radiographs when their use might have prevented an unfortunate result, he states. Not only is the failure to take radiographs a cause for damages, he adds, but also the failure properly to interpret a radiograph.

Improper use of x-ray equipment can also bring trouble. "The records are replete with instances not only of electric shocks accidentally sustained from x-ray or other electrical equipment," he says, "but also of serious x-ray burns which usually result in damage awards. Cases involving such burns are usually difficult to defend successfully."

Safe equipment

The use of "foolproof safeguards" in installation and handling of equipment is mandatory for the dentist, says Dr. Levinson. "One of the largest dental liability settlements on record," he recalls, "was necessitated when an equipment serviceman switched nitrous oxide and oxygen labels on the wall outlets in an oral surgeon's office, causing the death of a patient. Neither the oral surgeon nor the anaesthetist had checked the equipment after servicing."

Failure to use a rubber dam, particularly during root canal therapy, can also precipitate accidents. Dr. Levinson cites a \$100,000 damage suit filed against a dentist by a patient who had to undergo abdominal surgery after she swallowed a one and a half inch root canal reamer. The dentist had used only cotton rolls and the saliva ejector.

In another case, an oral surgeon failed to take the patient's records to the hospital where extractions were to be performed. He called the referring dentist and they agreed from memory, not from records, on which teeth were to be extracted. The result: six teeth extracted in error.

"Female patients are prone to allege indecent conduct, especially when treatment fails to fulfil cosmetic expectations," Dr. Levinson observes. "However, they will hesitate pressing charges if a witness, such as a

dental assistant, is present at all times. The prudent dentist will also further protect his interests by carrying a professional liability insurance policy which assures defence against such charges."

Liable for employees

If a dentist employs a dental assistant, he is liable for that employee's negligence. In addition to insurance coverage against fire, theft, vandalism, water damage, breakage and other perils, the dentist should have malpractice insurance and a policy to insure against office accidents, Dr. Levinson advises.

Among the commonest causes of malpractice claims filed by patients, he says, are: extractions, infection and retained roots; haemorrhage; cuts by discs, stones and high-speed instruments; heat and chemical burns; broken needles; breach of contract; a fall from a dental chair; a falling handpiece or a falling x-ray machine; swallowing of inlays or dental instruments.

Dr. Levinson recommends the following measures to avoid malpractice suits:

- Avoid arguments with patients;
- Keep accurate records;
- Never guarantee a good result;
- Follow approved practice methods;
- Be as careful in postoperative treatment as in the main operation;
- In the event of a mishap, immediately consult a fellow practitioner or a specialist;
- Never conceal an important fact from your patient;
- On questions of law pertaining to dental practice, consult your dental legal protective association or your liability insurance agent;
- Do not criticize another practitioner's services;
- Do not say anything which could be construed as an admission of guilt;
- Avoid accidents in the handling of caustic medicaments, burs, discs and stones;
- Make judicious use of radiographs; do not perform surgical operations without radiographs;
- Do not release radiographs or other records to the patient;
- Use an assistant when general anaesthesia is used;
- Do not inform your patient or his representative that you carry malpractice insurance;
- Courts require original records—save them;
- Verify manufacturers' instructions or warnings on drugs or appliances, the labelling and contents of bottles and containers, and the effects of any appliance used;
- Have an understanding about fees before beginning treatment;
- Avoid short cuts in arriving at a diagnosis; and
- Show a personal interest in your patient's progress and comfort.

Male oral cancer: Correlation of incidence with mortality and population characteristics

D. L. Anderson, DDS, MScD

D. W. Lewis, DDS, MScD

Toronto

A positive correlation between the incidence of intra-oral cancer and mortality from buccal pharyngeal cancer in Canadian men suggests that the mortality rates may be useful in estimating oral cancer incidence rates in provinces which do not yet have cancer registries. Lip cancer predominates in rural environments, whereas intra-oral cancer is associated with urban life. In Canadian men, oral cancer incidence and mortality seem unrelated to the consumption of alcohol. However, the incidence of oropharyngeal cancer correlates with liver cirrhosis mortality. Male buccal pharyngeal cancer mortality is also more prevalent in Canadian Roman Catholics and citizens of French origin. Buccal pharyngeal mortality is actually higher than it appears because the lesions that extend into underlying bone may be classified as primary bone tumours.

Une corrélation positive entre l'incidence du cancer intra-buccal et la mortalité par cancer buccal pharyngien chez le Canadien mâle laisse penser que les taux de mortalité peuvent être utiles pour évaluer les taux d'incidence de cancer buccal dans les provinces qui ne possèdent pas encore de registres du cancer. Le cancer de la lèvre prédomine en milieu rural tandis que le cancer bucco-pharyngien est associé à la vie urbaine. Chez le Canadien mâle, incidence et mortalité du cancer buccal ne semblent pas liées à la consommation d'alcool. Cependant, l'incidence du cancer bucco-pharyngien correspond à la mortalité par cirrhose du foie. La mortalité par cancer buccal pharyngien chez l'homme est aussi plus fréquente chez les Canadiens de religion catholique et les citoyens d'origine française. La mortalité par cancer de ce type est en fait plus élevée qu'il n'y paraît car les lésions peuvent atteindre l'os sous-jacent et être classées comme tumeurs osseuses primaires.

Male oral cancer incidence and mortality rates and population characteristics.

Table 1

Province, state or country	Cancer incidence						Cancer mortality			Cirrhosis mortality	Population characteristics						Age : 45 yrs.+
	Lip	Tongue	Floor	Other mouth	Oro- pharynx	Buccal pharynx	Larynx	Oseo- phagus	Bone— connective tissue		Alcohol con- sumption	Large urban	Rural	French	Roman Catholic		
n/million/year										Gal/10 persons	%	%	%	%	%		
Newfoundland	204	10	3	19	0	39	7	40	16	29	10	0	51	4	36	22	
Prince Edward Is.	233	5	11	13	—	24	—	—	—	—	12	0	70	17	47	28	
Nova Scotia	97	20	8	28	5	45	20	29	22	47	13	37	47	12	36	26	
New Brunswick	175	9	12	14	2	32	13	11	15	44	12	0	55	39	52	24	
Quebec	75	24	10	19	14	60	22	32	23	88	16	50	27	80	88	22	
Ontario	—	—	—	—	—	42	18	36	15	89	19	47	24	10	31	26	
Manitoba	130	12	5	17	6	27	14	30	16	75	16	49	38	9	23	28	
Saskatchewan	209	7	3	12	3	26	8	26	13	48	15	12	59	6	26	28	
Alberta	143	10	6	9	4	22	8	24	12	58	17	44	39	6	23	24	
British Columbia	—	—	—	—	—	32	17	38	16	93	18	52	29	4	18	29	
Connecticut	36	42	19	26	21	79	—	—	—	—	—	72	22	—	—	30	

A previous article¹ has shown that male oral cancer incidence and mortality vary greatly in different provinces; female rates, however, are much more uniform. Several authors¹⁻³ have postulated a relationship between oral cancer incidence and mortality on one hand and alcohol consumption, liver cirrhosis, urban/rural residence, ethnic origin, religious affiliation and age on the other hand. The degree of correlation between these factors was investigated in this study.

Material and method

Detailed data on recent oral cancer incidence (lip, tongue, floor, other mouth, oropharynx) are available from cancer registries in eight Canadian provinces and Connecticut.¹ Provincial mean male mortality rates for 1961-66⁴ were calculated for buccal pharyngeal cancer, laryngeal cancer, oesophageal cancer, bone-connective tissue cancer and liver cirrhosis.

Alcohol consumption refers to the mean number

Pearson's correlation coefficient (r) was used to measure the degree and direction of relationship between the various paired contrasts reported here. Only correlations significant at the 1 per cent or 5 per cent level are described.

Findings

The principal findings are presented in the diagram of significant correlations (Fig 1). At the 5 per cent level, there was also positive correlation of cancer incidence of the floor of the mouth with incidence of tongue and oropharyngeal cancer, and with mortality from buccal pharyngeal cancer. However, oropharyngeal cancer incidence correlated negatively at the 1 per cent level with lip cancer incidence.

Discussion

Positive correlation between intra-oral sites indicates that when cancer incidence is high or low at one site, it is probably also high or low at the other sites. Incidence at all intra-oral sites correlated positively with buccal pharyngeal cancer mortality. On the other hand, negative correlation indicates a rise in one rate in conjunction with a fall in the other. This occurred between lip cancer incidence and incidence at intra-oral sites; also between lip cancer incidence and

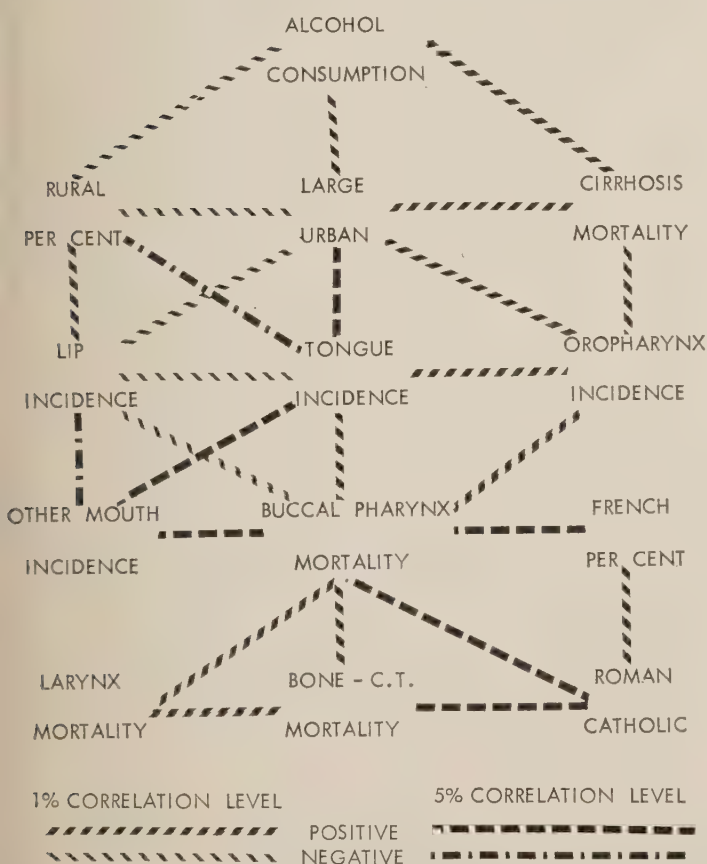


Fig 1 Diagram of significant correlations.

buccal pharyngeal mortality. That the lowest mortality rates should occur in provinces with very high lip incidence is probably due to (1) the difference in survival rates,⁷ which for lip cancer are at least twice that for intra-oral sites, and (2) the fact that these provinces have the lowest intra-oral incidence rates. The significant correlations between mortality and incidence rates suggest that cancer mortality rates may be useful in estimating oral cancer incidence rates where cancer registries have not been established.

Lip cancer incidence correlated negatively, while tongue and oropharyngeal cancer incidence correlated positively with the percentage of population who live in cities of 100,000 people or more. As expected, the opposite is true for correlations of rural populations. This suggests that lip cancer incidence is high in rural areas and diminishes in larger centres, whereas tongue and other mouth cancer incidence is high in large cities and declines in progressively smaller communities. In Ontario lip cancer rates were high in predominantly rural farm counties and low in predominantly urban counties.⁸ Incidence rates according to size of town are available from Connecticut (1936-1962)⁹ and Denmark (1943-1957).¹⁰⁻¹²

Connecticut incidence rates are low for lip cancer and high for intra-oral sites compared to Canadian provinces. The state is largely urban; 72 per cent of its population live in cities of 100,000 or more and only 22 per cent live in rural areas.^{13, 14} Tongue cancer in Connecticut displays a linear relationship between increasing incidence and progressively larger towns (Fig 2). Incidence at other intra-oral sites exhibits a similar pattern.

In Denmark male lip incidence drops markedly with each increase in the size of a town. Cancer incidence for tongue and other mouth sites displays a reverse trend. Comparison of male lip incidence with tongue incidence shows a linear relationship (Fig 3) with significant correlation at the 5 per cent level. Other intra-oral sites and lip exhibit a similar correlation.

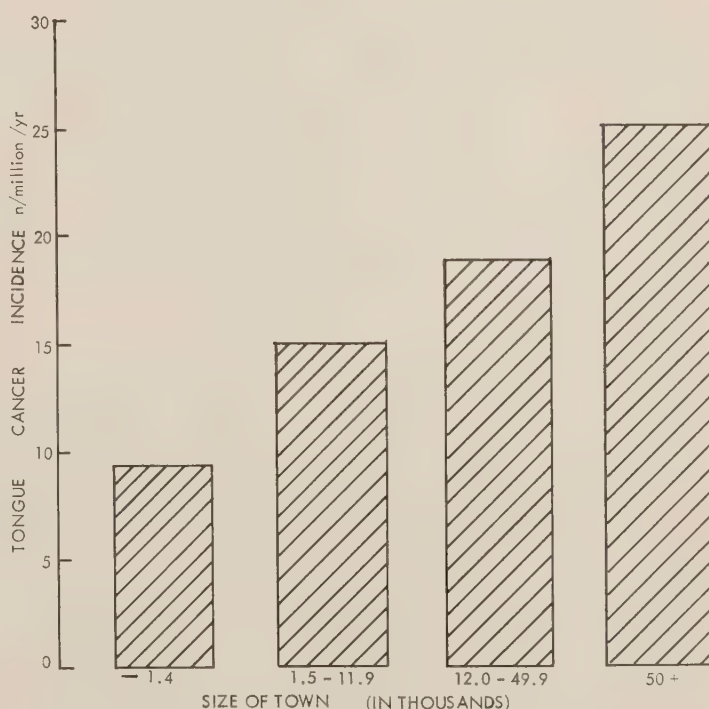


Fig 2 Cancer incidence in Connecticut.

These positive lip/rural and tongue/urban correlations and the negative lip/tongue correlation suggest that in men the urban environment contributes to intra-oral cancer development whereas rural surroundings contribute to lip cancer. The relationship of lip cancer to long exposure to the actinic rays of sunlight that occurs in many rural occupations has been well described.^{15, 16}

In the provinces there was positive correlation between large urban populations, alcohol consumption and cirrhosis deaths. Studies in American hospitals have shown that patients with oral or pharyngeal cancer have more frequent liver cirrhosis¹⁷⁻²⁰ and are much heavier drinkers^{17-19, 21-23} than control groups of patients. In 15 European, North American and Australasian countries the male mortality rates²⁴ for cancer of the larynx and oesophagus correlate positively²⁵ with alcohol consumption.⁵ Alcohol consumption in these countries is associated with buccal pharyngeal cancer mortality.³ However, in Canada neither oral cancer incidence nor mortality correlate with provincial alcohol consumption, and only oropharyngeal cancer incidence correlates significantly with liver cirrhosis mortality.

The incidence of oropharyngeal cancer also paralleled the percentage of the population which is French in origin. Male buccal pharyngeal mortality correlated positively with the percentages who are French and Roman Catholic. Male buccal pharyngeal mortality rates are especially high in France and Quebec;¹ the latter is predominantly Catholic and French in origin. Provincial percentages of French origin also correlated positively with percentages of Roman Catholics. In two separate studies^{21, 23} in New York City there were significantly higher percentages of Roman Catholics in oral cancer patients than in the control groups.



Fig 3 Male cancer incidence in Denmark.

Macdonald²⁶ compared published cancer mortality rates for 24 countries²⁴ and found that male buccal pharyngeal cancer mortality correlated with male mortality rates for oesophagus and larynx. Canadian provinces reveal significant positive correlation between male cancer mortality rates of the buccal pharynx and larynx, but not between those of buccal pharynx and oesophagus.

Correlation of mortality rates of anatomically adjacent sites suggests that there may be common aetiological factors. Buccal pharyngeal cancer and bone-connective tissue cancer may seem like unrelated lesions; there is, however, a direct connection because cancers which arise in the mouth and subsequently invade bone are often included along with primary bone tumours in the bone cancer classification.²⁷ Phillips²⁷ investigated 827 deaths assigned to primary bone tumours in Canada between 1950 and 1960. Of these, 67 per cent were verified as primary bone tumours and 13 per cent as buccal pharyngeal (including 11 per cent intra-oral). None were laryngeal. Actual buccal pharyngeal mortality rates are therefore higher than those recorded for that category, and the greatest increase would be for males and in provinces which already have the highest rates.

Interprovincial variations in the percentage of men who are 45 years and older did not correlate with variations in the incidence or mortality of oral cancer. Age, of course, is a very important factor in oral cancer incidence, but its influence seems to be similar in the different geographical regions investigated.^{8, 13}

Summary

In Canada there is a negative correlation between the incidence of lip cancer and intra-oral cancer in males. Male cancer incidence at all five oral sites bears upon male buccal pharyngeal mortality. The correlation is positive for intra-oral sites but negative for lip. Lip cancer incidence parallels rural living, whereas tongue and oropharyngeal cancer incidence is associated with large urban populations and large cities. In Connecticut and Denmark, the larger the city, the greater the intra-oral cancer incidence. Deaths from alcohol consumption and cirrhosis, which are also highest in large cities, have been implicated as aetiological factors in oral cancer. However, Canadian male cancer incidence and mortality did not correlate with alcohol consumption; only oropharyngeal cancer incidence correlated with cirrhosis death rates. Oropharyngeal cancer incidence also correlated positively with the percentage of population that is French in origin. Male buccal pharyngeal cancer mortality rates correlated positively with the percentage who are Catholic and French in origin. Provinces with a high male buccal pharyngeal cancer mortality also have high male mortality rates for laryngeal and bone-connective tissue cancer. Cancer which arises in the oral cavity or pharynx and then extends into underlying bone is frequently recorded in the bone cancer category. Buccal pharyngeal mortality rates are thereby diluted.

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Man to Man Justice — The uniformed policeman does not originate right and wrong. He merely extends and reinforces the observance of those rights and duties that stem from the Ten Commandments. In all respects he is a mere projection of the individual human conscience and in no case can he be made to substitute for it. On the contrary, a widened sense of individual conscientious responsibility can be made to shorten the policeman's "beat" considerably. It is in this direction — the direction of a more acutely developed sense of individual conscientious responsibility — that we must constantly look for any permanent improvement in the ordered general welfare of

our society. It must be remembered that 95 per cent of the peace, order and welfare existing in human society is always produced by the conscientious practice of man-to-man justice and person-to-person charity. When any part of this important domain or personal virtue is transferred to government, that part is automatically released from the restraints of morality and put into the area of conscience-less coercion. The field of personal responsibility is thus reduced at the same time and to the same extent that the boundaries of irresponsibility are enlarged. — Clarence Manion. *The Key to Peace*.

Use of pins for retaining amalgam restorations: a synopsis

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H. W. Gilmore, DDS, MSD
Indianapolis

The authors summarize our present knowledge about self-threading, friction-locked and threaded cemented pins: how deep they should penetrate into dentine and amalgam, and where they should be located in the tooth.

Les auteurs résument les connaissances actuelles sur les tenons taraudés, les tenons à verrouillage à friction et les tenons taraudés cimentés. Quelle épaisseur de dentine et d'amalgame devraient-ils pénétrer et où devraient-ils être situés dans la dent?

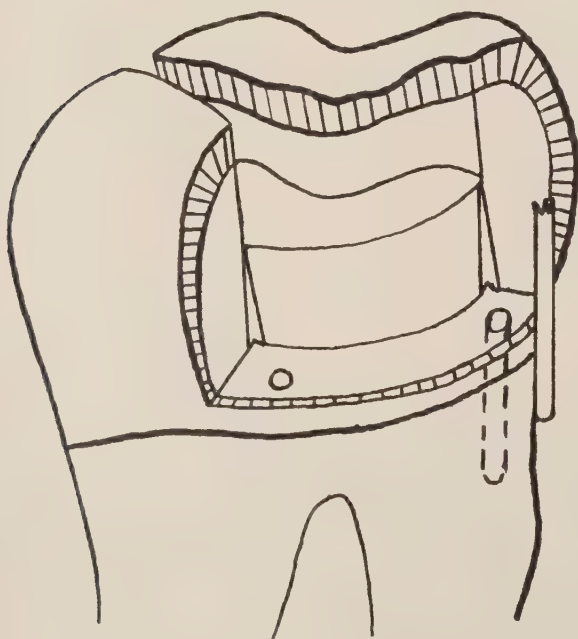


Fig 1 The line drawing illustrates the location of the pin hole just inside the dentine-enamel junction. The direction is determined by holding the spiral bur or a flat bladed instrument parallel to the external surface. This direction is maintained as the bur is moved to the pin hole site.

Pin-retained amalgam may be more practical than cast gold restorations in the event of a questionable pulpal prognosis,^{1,2} susceptibility to dental caries, advanced periodontal problems and unfavourable economic circumstances. Pin-retained amalgam can also serve as a core for a gold casting when future economic considerations become more propitious.^{2,3} Additionally, pins may be used to retain other restorative materials such as silicate cement and acrylic resins.⁴ Since use of pin retention is increasing, it is timely to review the present literature on the subject. Three types of pins are commonly used today: the self-threading pin, the friction-locked pin and the threaded cemented pin.

Depth of pins in dentine

Self-threading pins—The best depth for the self-threading pin is from 2 to 3 mm.^{5,6} These pins are two to three times more retentive in dentine than the friction-locked pins and five to six times more retentive than threaded cemented pins.⁶ At a depth of 2 mm Dilts et al⁵ required 70 pounds to remove pins of .032 inches in diameter, and nearly 38 pounds to remove pins of .023 inches in diameter. At a depth of 3 mm both the large and small pins fractured at 76 pounds and 45 pounds respectively, without being dislodged from the dentine. Moffa, Razanno and Doyle found that these pins fractured at depths beyond 2 mm.⁶ At a depth of 1 mm the pins lose half of their retention.

One disadvantage of self-threading pins is that they cannot be curved before placement to conform to the contour of the tooth. Although it is possible to bend the pin after placement, there is some danger of fracturing the dentine at the side of the pin hole, especially if the pin is near the surface of the root. Clinical judgement must be exercised if it is necessary to bend the pins.

Friction-locked pins—Though the retentiveness of these pins increases as the posthole deepens,^{5,7} there is little advantage in going beyond 2 mm unless it is possible to use a full 4 mm posthole. Usually, such depth is out of the question.

It has been suggested that friction-locked pins could split a vital tooth since they are tapped into a hole .001 inch smaller in diameter than the pin. Goldstein,⁷ however, found no fractured teeth during an 18 month survey of dentists who used 589 of these pins. On the other hand, since endodontically treated teeth are often brittle, they should not be treated with this pin.⁸ Such teeth can be restored adequately with a cemented pin.

Friction-locked pins are easily placed in anterior teeth, but are more difficult to use in the posterior teeth because of limited access. One problem is that the hole sometimes becomes too large and frictional retention is lost. If this occurs, a cemented pin becomes necessary.

Threaded stainless steel cemented pins—These pins have been widely advocated for their versatility and because they were developed before the other two.⁹⁻¹¹ Their main virtue is that they can be curved before placement and used in relatively inaccessible areas which preclude the use of other pins. These pins, cemented with zinc phosphate cement, require an average of 5.2, 7.6, 13.1 and 11.8 pounds, respectively, to withdraw them from holes 1, 2, 3, and 4 mm deep.⁵ Retention decreases in the 4 mm hole, possibly because the diameter of the pin hole becomes too large. Although the recommended depths vary from 1.5 to 6 mm,⁸ the optimum depth for cemented pins seems to be 3 mm. If 3 mm cannot be obtained, 1.5 to 2 mm is beneficial, although retention and resistance are sacrificed to some extent.^{12,13}

Depth of pins in amalgam

Threaded and self-threading pins—Threaded Markley pins and self-threading pins need not extend beyond 2 mm into amalgam.^{6,14} At this depth the retention in amalgam exceeds the tensile strength of the pin. There is no need to bend these pins in order to lock them more securely or increase the strength of the amalgam. In fact, physical properties of amalgam, such as compressive and tensile strength, decrease when pins are incorporated.¹⁴⁻¹⁸ Fortunately the loss in strength is small compared to the advantage of increased retention.

Friction-locked pins—These pins develop the lowest retention in amalgam.¹⁴ However, the retention at 2 mm in amalgam exceeds the retention at 4 mm in dentine. For practical purposes, if the amalgam is adequately condensed, 2 mm of depth in the metal is satisfactory.

Placing the pin holes

Markley recommends that pin holes be placed parallel to the tooth or root surface in sound dentine just inside the dentine-enamel junction.⁸ On the mesial and distal aspect of teeth where the gingival seat extends below the cemento-enamel junction the pin hole should be placed midway between the root surface and the pulp as determined from the radiograph. Markley suggests countersinking each pin hole with a 1/2 round bur to provide a starting point for the spiral bur. The direction of each pin hole is determined by holding the spiral drill or a thin flat-bladed instrument parallel to the external surface of the crown or root. This direction is then maintained as the drill is brought to the pin hole site (Fig 1).

After placement, self-threading and friction-locked pins can be cut off at the desired length with a round bur in the air turbine handpiece. Rubber dam is used, not only to provide a dry operative field, but also to prevent possible aspiration or swallowing of the pins.

Conclusions

- 1. Pin depths beyond 2 mm in dentine are not advantageous.
- 2. Pin lengths extending into the amalgam should not exceed 2 mm so as not to weaken the alloy.
- 3. Pins do not strengthen or reinforce amalgam restorations but they are helpful in providing retention and resistance form.
- 4. Pin holes of accurate diameter are essential. They complement retention for self-threading and friction-locked pins.
- 5. The armamentarium and values vary with each pin type. Clinical problems dictate that all types should be available for patient care.
- 6. The pins merely complement the operative principles for the individual restoration. The quality of patient service is improved and many more teeth can be saved by using pins.

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School dental inspection: Motivation achieved by four different methods of referral

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Victoria

In this study of kindergarten to Grade 5 school children, dental inspection and referral motivated more children to seek dental care than the distribution of referral cards alone. The addition of dental health instruction had little impact on the demand for and delivery of dental treatment. Nevertheless, the author asserts that dental health education can induce positive attitudes toward oral health and foster the adoption of better dental health habits.

Cette étude, entreprise du jardin d'enfants à la 5e année, montre qu'un examen dentaire et une recommandation d'aller voir leur dentiste ont motivé plus d'enfants à se faire soigner les dents que la seule distribution de cartes de recommandation. L'adjonction d'instructions en hygiène dentaire a eu peu d'influence sur la demande et l'exécution des soins dentaires. L'auteur affirme cependant que l'éducation à l'hygiène dentaire peut créer une attitude favorable à l'hygiène de la bouche et stimuler l'adoption de meilleures habitudes.

Most health and educational authorities agree that the inclusion of dental health in a school health program is important. The keyword should be "prevention" through the motivation of positive attitudes and habits for maintaining and improving oral health. Opinions vary, however, as to how this objective may best be attained. Accordingly, this study was undertaken to determine whether different methods of referring children to their family dentist had any impact upon subsequent attendance in the dental office for necessary treatment. We specifically tested the effects of dental inspection and dental health education upon attendance at the family dentist's practice.

Material and method

The Greater Victoria School District has had a dental department for many years. Its foremost objective is a program of preventive dentistry intended to benefit all pupils.

Ordinarily, dental inspections are given to all pupils from kindergarten to the eighth grade. Pupils in kindergarten to Grade 3 receive two annual inspections; those in the higher grades are given one inspection each year. Parents of kindergarten and first grade pupils are invited to attend one of the inspections.

Mouth mirrors, explorers and adequate illumination are used in our inspections. They can be performed in

Name..... Div.....
School..... Date.....
GREATER VICTORIA SCHOOLS — DENTAL DEPARTMENT
To the Parent or Guardian:
The School Dental Inspection includes clinical observation of oral hygiene, teeth and surrounding tissues of the mouth. The purpose is not to count cavities (dental x-rays would be required to locate all such defects), nor to suggest methods of treatment. These suggestions rest with the family dentist.
A visit to your family dentist is recommended unless your child has attended recently, in which case your dentist is quite aware of existing conditions.
Kindly have this card signed on the next visit to the dentist and return it to the school.
Remarks:
.....
This child is now under treatment ☐ Treatment completed ☐
Date..... Dr. Dentist

Fig 1 Usual dental referral card given to pupils who received inspection only (method A) or inspection and health education (method B).

the school with portable equipment and can be combined with a dental prophylaxis and topical fluoride applications.¹ The inspection is used to identify major dental needs and to educate and motivate pupils and parents to better health attitudes, habits and regular dental treatment. In essence, it is a cursory observation of the mouth and teeth, not a thorough examination as conducted in the dental office. Included are clinical observations of the oral hygiene, teeth and surrounding mucosa, but no attempt is made to count cavities or to suggest methods of treatment. These suggestions rest with the family dentist.²

The referral card is therefore very simple. It merely urges the parent to take the child to the family dentist. Cards completed by the family dentist are returned to the school and thence to the dental department for recording.

The referral of these children to family dentists is an important part of the school dental program. The vigorous partnership which has developed between private practitioners and our department is, in fact, one of its most encouraging features.

In this study four different methods of referral were used in six Greater Victoria schools in 1968-69. All schools were located in areas judged to be of similar socio-economic status. Methods of referral were randomly applied to the selected schools. A total of 1,581 pupils in Grades 1 to 5 were available in these schools for this study.

Method A—All pupils received a dental inspection only. No dental health instruction was given. No parent interviews were held. No dental health literature was given out. The regular referral card which recommends a visit to the family dentist was given to those pupils who required treatment (Fig 1).

Method B—This was a dental inspection supplemented by (1) a film or filmstrip and talk given by the dental

officer; (2) a toothbrushing demonstration; (3) literature and posters given to the teacher; (4) dental health literature distributed to the parents by way of the pupils; and (5) parent consultations in Grade 1 classes. The regular referral card was given to those children who required treatment (Fig 1).

Method C—The five educational measures described in method B were carried out in each classroom. Furthermore, every pupil in this group received a special card. It informed the parents that their child had participated in a dental health program at school and also urged them to take their child to the dentist for regular examinations (Fig 2).

Method D—Pupils in this group received no diagnostic inspection and were not exposed to health education. Every pupil took home a special card. The card urged the parents to take their children to the dentist for regular examinations (Fig 3).

All cards presented to the family dentists were completed by them and returned to the schools and thence to the dental department. There was no follow-up inspection of study children whose cards were not returned to the school; nor were their parents contacted by telephone or form letter to urge them to have their child attend the family dentist.

Results

Of the 1,581 pupils available, 1,519 (96.1 per cent) were examined (Table 1). In each of the four groups

the percentage of children in need of dental treatment at the time of inspection was quite similar.

Method B gave the highest response in terms of inducing visits to family dentists. Subjects exposed to method A recorded a slightly lower percentage. Methods A and B produced a noticeably higher response than the other two methods.

Discussion

The American Dental Association's Council on Dental Health³ has cited the following as advantages of school dental inspection:

- 1. It serves as a basis for school dental health instruction.
- 2. It builds a positive attitude in the child toward the dentist and dental care.
- 3. The child is motivated to seek adequate professional care.
- 4. Teachers, students, dentists and others concerned with school dental health may use the dental inspection as a fact finding experience.
- 5. Baseline and cumulative data for evaluation of the school dental health program are made available.
- 6. It provides information as to the status of dental needs, leading to the support of a sound dental health program.

The limitations of an inspection program are defined as follows:

- 1. Unless the purpose of the dental inspection in school is understood, parents tend to depend on it rather than to seek periodic examination, including radiographs, at the dentist's office.

NAME William C. Douglas DIV. 1
SCHOOL Sir James Douglas DATE DEC - 5 1967

GREATER VICTORIA BOARD OF SCHOOL TRUSTEES
DEPARTMENT OF DENTAL SERVICE

TO THE PARENT OR GUARDIAN

Today in school your child attended a program of dental health presented by the Dental Department of the Greater Victoria School Board. This programme is designed to educate and motivate children to better health habits, maintain good oral treatment at the family dentist.

If your child has not visited the dentist within the last six months, we strongly urge that an appointment be made immediately. A check-up and early treatment, if necessary, may prevent painful disease and expense.

Would you kindly request your dentist to fill in the information on the back of this card.

Please note that your child's teeth were inspected not only for survey and statistical purposes.

TO THE FAMILY DENTIST

In order to evaluate our Dental Health Education Programme, would you kindly give the information requested on the back of this card and return it to the school.

I have examined the teeth of this child and their condition is indicated below

Teeth satisfactory	Tick
Teeth require treatment	Tick

If treatment is required please tick below in appropriate square

Teeth require no dental treatment	Tick
The necessary treatment has been completed	Tick

REMARKS

DATE _____ DR. William C. Douglas

Fig 2 Special referral card given to pupils who received health education but no inspection (method C).

NAME William C. Douglas DIV. 1
SCHOOL Sir James Douglas DATE Oct 30 1967

GREATER VICTORIA BOARD OF SCHOOL TRUSTEES
DEPARTMENT OF DENTAL SERVICE

TO THE PARENT OR GUARDIAN

Good Dental Health is necessary for good general health. The reason is that GATEWAY to the body, the mouth kept free from disease, is one of the best ways to good health.

Dental disease can be prevented by:

- 1. Good Oral Hygiene
- 2. A minimum amount of sugar in diet
- 3. A well rounded diet with food rich in calcium, phosphorus and vitamin D
- 4. Amusing your dentist every six months
- 5. Fluoride therapy in discussion with your dentist

If your child has not visited the dentist within the last six months, we strongly urge that an appointment be made immediately. A check-up and early treatment, if necessary, may prevent painful disease and expense.

Would you kindly request your dentist to fill in the information on the back of this card.

Please Note that your child's teeth were inspected not only for survey and statistical purposes.

TO THE FAMILY DENTIST

In order to evaluate our Dental Health Education Programme, would you kindly give the information requested on the back of this card and return it to the school.

I have examined the teeth of this child and their condition is indicated below

Teeth satisfactory	Tick
Teeth require treatment	Tick

If treatment is required please tick below in appropriate square

Teeth require no dental treatment	Tick
The necessary treatment has been completed	Tick

REMARKS

DATE _____ DR. William C. Douglas

Fig 3 Special referral card given to pupils who received no inspection and no health education (method D).

Table 1

Method	Enrol- ment	Children inspected	Children requiring dental care		Children requiring dental care who made appointments	
			No.	%	No.	%
A Inspection plus usual referral card	399	393	145	36.9	56	38.6
B Inspection, health education plus usual referral card	397	370	134	36.2	58	43.3
C Health educa- tion plus special card (C)	407	390	160	41.0	37	23.1
D Special card (D)	378	366	129	32.5	36	27.9

2. The primary purpose of motivating parents and children to seek and obtain regular dental care by the family dentist is not fulfilled unless a definite follow-up is provided.

3. It is desirable for parents to be present during dental examinations. This procedure is not always feasible in school inspections.

4. Children should acquire, early in life, the habit of visiting the family dentist regularly for examination and care. Some school inspections may tend to discourage rather than to promote the development of this habit of personal initiative.

In a study carried out by Shory and Sanford,⁴ the authors reported that twice as many non-inspected children visited the dentist as inspected children. The dental visits were determined by a weekly show of hands by the students, not by cards signed by dentists. The authors did not advocate the retention or elimination of inspections as a part of the school dental health program.

Swerdloff,⁵ in a comparison between "card referral" and "inspection referral" programs, concluded that the latter are not justified in the health program of an elementary school as a method of increasing dental visits. He describes card referral as a more practical method that requires less professional manpower, money and material. He also contends that providing teachers with information about dental health is not an effective method of increasing dental visits by elementary students.

Dunning¹ takes a different view, however. It may seem wasteful to examine for a disease that attacks more than 95 per cent of children, especially when treatment is to be given elsewhere, but he suggests that holders of this viewpoint should not minimize or neglect the following important arguments in favour of the dental inspection:

1. Every child, unless shown to the contrary, is likely to consider that he is one of the 5 per cent immune in his class. The positive findings of a dental inspection, therefore, give him far greater motivation to seek dental care than he would have otherwise.

2. The dental inspection is an opportunity not only for individual health education, but also to build a positive attitude in the child toward the dentist and dental care.

The effectiveness of a program of classroom education and referral to the family dentist carried out by a dental hygienist at the Grade 1 level⁶ provides further evidence for the validity of this approach.

The study described in this report was carried out on the basis of one inspection only. Ordinarily, Victoria's kindergarten to Grade 3 pupils receive two inspections per year. In other words, they are re-checked within five or six months. This increases the percentage of returned cards. It has also been found that a telephone call by the dental assistant to the parent of the child who has not returned a card will stimulate motivation.⁶

Our regular dental inspection and education program produced the following results in 1967-68: 93.7 per cent in Grades 2 to 8 were either dentally fit at examination or reported so later in the year, and 80.0 per cent in kindergarten and Grade 1 were either dentally fit at examination or reported so later in the year.

In a series of dental health surveys⁷ carried out throughout British Columbia during the period 1961-67, Greater Victoria had a statistically significant higher percentage of children (ages 5-15 years) with no untreated carious lesions than any other region of the province. These surveys also showed a statistically significant lower DMF rate (for combined ages 7-15 years) in our area. These results are partly attributable to timely treatment. In this respect we are fortunate because the Victoria area has a population dentist ratio (2,083:1) which is much more favourable than the mean ratio of 2,416:1 for British Columbia and 3,039:1 for Canada.

Conclusions

Under the circumstances pertaining to this study, the best results were achieved when referral was supplemented by a school dental inspection. The added educational program had little effect in motivating pupils and parents to seek dental treatment.

It must be emphasized, however, that the school inspection and dental health education serve not only to motivate pupils and parents to regular dental treatment but as means to educate them to better dental health habits and attitudes. This is preventive dentistry. That is why the school dental program offers dental public health the greatest opportunity for dental health education.

Doctor Parfitt is Director of Dental Services for the Greater Victoria School District, PO Box 700, Victoria.

- 1 Dunning, J. M. Principles of dental public health. Cambridge, Massachusetts, Harvard University Press, 1962.
- 2 Stoll, Frances A. Dental health education. Ed 2. Philadelphia, Lea & Febiger, 1960.
- 3 American Dental Association, Council on Dental Health and Bureau of Dental Health Education. A dental health program for schools. Chicago, American Dental Association, 1954.
- 4 Shory, N. L. and Sanford, Cyrette. Comparison of motivation achieved by two different techniques employed in a school dental health program. J Dent Child 31:327, 1964.
- 5 Swerdloff, George. Comparison of two methods for referral in a program of school dental health. J Pub Health Dent 28:241, 1968.
- 6 Gray, A. S. and Hawk, D. R. An evaluation of a grade one dental health program. Canad J Public Health 59:166, 1968.
- 7 British Columbia Dental Health Surveys, 1961-67. Division of Vital Statistics, Special Report No 100. Dental health indices for the dental survey regions of British Columbia. Department of Health Services and Hospital Insurance, British Columbia, 1968.

Book Reviews

Facial Prosthesis

F. S. Al-Qudsi. Baghdad, Baghdad University Fund, 1968. 196 p. Illus.

An ever increasing number of people suffer from acquired or congenital deformities which cannot be treated by plastic surgery. Some of these disfiguring conditions are beyond the scope of surgical reconstruction and the hapless victims frequently become social recluses. But the growing interest in maxillofacial prosthodontics is attracting dentists, especially prosthodontists with advanced training in this area, to join the team of specialists concerned with the rehabilitation of these patients. This book is a welcome addition to the sparse literature on maxillofacial prosthodontics. Dr. Al-Qudsi has summarized his experiences in this field and describes several case histories. His book deals exclusively with facial prostheses, their fabrication, and a thorough assessment of materials in current use. His chapter on the history and development of this discipline is a very good one. He develops an irrefutable argument in favour of the functional/aesthetic objectives of such prosthetic treatment and the prosthodontist's indispensable role in carrying out the treatment. The book is amply illustrated but several of the pictures are of poor quality. References and supplementary reading lists follow each chapter. The production of the book is not quite up to North American standards, but the forthright clinician's approach to the subject matter makes this a book which I recommend to anyone interested in facial prosthetics.

G. A. Zarb

The Dentist, His Practice, and His Community

W. O. Young and D. F. Striffler. Ed 2. Philadelphia, W. B. Saunders Company (Canada) Ltd, 1969. 346 p. Illus. \$13.00

The second edition of this text within a period of five years emphasizes the rapidity of change in the events that

affect the dentist, his practice and his community. Young, Striffler and Russell, who collaborated in writing the book, have extensive experience in private practice, state and urban dental public health programs, medical rehabilitation and epidemiological research. They are well qualified to express opinions and have carefully documented their text with extensive bibliographies and additional reference material.

The format is unaltered, being divided into six sections: dentists and public health; assessment of the problem of dental disease; prevention and control of dental disease; meeting the demand for dental care; dental health education; and the dentist, his practice and his community.

Included are current topics such as fluoridation, group purchase programs, specialists, manpower, auxiliary personnel, health education and aids for the young practitioner. There are chapters on the assessment of dental disease problems, dental epidemiology, preventive dentistry, control of disease, and dental needs and demands. The authors favour programs initiated by organized dentistry or communities so as to minimize the increasing challenge of state medicine.

Sections II and III contain Dr. Russell's contribution which has been expanded and improved in order to interest the general practitioner. Russell presents some basic tools which help readers to understand and evaluate scientific literature. The chapter on prevention and control of dental disease contains an excellent review for the busy practitioner on the physiology and metabolism of fluorides.

This timely text can help the practising dentist gain a better appreciation of his professional responsibilities to his patients as part of the community in which both live. The relationship between the profession and the society it serves is an ever-changing one; adjustment is therefore essential if the profession is to justify its continuing existence.

In chapter 12 of the 1964 edition the authors warned the profession about increasing participation by outsiders in health affairs. They stressed the growth of health care programs and the risk of sacrificing professional leadership if there is no constructive response from

the health professions. The authors repeat their warnings in the new edition. The supporting evidence of what has transpired in the past five years, and the insistent demands of the public are reflected by the medical amendments to the US Social Security Act (Titles XIII and XIX), federal and state aided funding of public health services, neighbourhood health centres established by the Office of Economic Opportunity, and the American Dental Association's Children's Dental Program, to mention a few. A further word of caution is contained in the following passage on page 256: "During the coming decade, the health professions will increasingly find that the final decision about establishing and maintaining health programs will not be theirs, but will rest in the hands of knowledgeable laymen."

The latest edition will continue to furnish an excellent reference text for undergraduate and graduate courses in dental public health.

C. H. McCormick

Analyse de livres

A Comparative Study of the Postnatal Growth of the Mandible

J. D. Manson. Londres, Henry Kimpton, 1968. 146 p. Illustré. 40s.

Dans son introduction à l'étude comparative de la croissance postnatale de la mandibule, le Dr Manson fait une revue bien élaborée de la littérature en relation avec la croissance de la face et de la mandibule. Il décrit en détail les différentes techniques d'étude en commençant du temps de Duhamel (1742) jusqu'à nos jours où l'étude de la croissance est plutôt concentrée sur des colorants comme l'alisarine ou la tétracycline sous le microscope fluorescent. L'étude a été faite sur trois types d'animaux: le chat, le rat et le cobaye.

Chez le rat, par exemple, ses résultats correspondent à ceux de Hay (1956) dans le sens que la désintégration du cartilage de Meckel commence autour du trou mentonnier qui se trouve dans la région d'os membraneux, tandis que chez le cobaye, il n'y a pas de signe de la présence de ce cartilage

à la naissance. La fluorescence de la tétracycline paraît être moins précise chez le cobaye que chez le rat ou le chat par la technique employée dans cette étude. La mandibule du chat qui a atteint ses dimensions adultes à l'âge de 48 semaines présente encore une certaine activité de remodelage interne ou de surface sans activité de croissance au niveau du condyle.

Manson compare ses résultats de remodelage au niveau de la mandibule avec ceux d'autres chercheurs et conclut qu'il y a des similarités et des différences quant à la résorption et la déposition osseuse chez les trois espèces étudiées par lui; il remarque l'importance du remodelage interne surtout au niveau de l'apophyse alvéolaire qu'ailleurs. L'existence de deux facteurs (génétique et prolifération endochondrale) est envisagée dans le développement de la tête du condyle. Il supporte l'idée que la croissance de la branche montante et celle du corps mandibulaire sont indépendantes. Aussi, il est d'accord avec d'autres que l'importance primordiale donnée à la tête du condyle comme seul centre de croissance doit être abandonnée. Le condyle doit être considéré comme un des centres de croissance parmi d'autres, comme la matrice fonctionnelle proposée par Moss ou le cartilage angulaire chez le rat.

Dans le chapitre de croissance et fonction, l'auteur fait la distinction entre la fonction normale et les fonctions anormales ou forces appliquées, en déduisant que sous les conditions fonctionnelles normales (environnement), la croissance osseuse se fait d'après son pochoir (template) génétique.

Manson lui-même accepte le nombre limité de son échantillonnage et certaines erreurs de mensuration dues à la technique employée. C'est quand même une étude sérieuse et détaillée de la croissance mandibulaire du chat, du cobaye et du rat. Une bibliographie riche et de belles photos augmentent l'importance de cette publication.

A. Demirjian

Fractures of the Facial Skeleton

N. L. Rowe et H. C. Killey. Ed 2. Edimbourg et Londres, E. & S. Livingstone Ltd, 1968. (au Canada: The Macmillan Co. of Canada Limited, Toronto) 896 p. Illustré. \$33.50

Ce volume se divise en trois parties soit: (1) fractures de la mandibule, (2) fractures du tiers moyen de la face, (3) différents traumatismes du massif facial. Chacune de ces parties décrit en détail, avec clarté et précision, aussi bien l'anatomie de la région impliquée, que

le mécanisme musculaire et nerveux qui l'anime.

Evidemment, un sujet aussi vaste, traité avec un tel souci de perfection et une telle détermination de n'en oublier aucun aspect, nous conduit forcément à un volume de dimensions respectables. Le format est de 8½ par 11 pouces et la dernière page porte le numéro 896. Mais que ceci ne décourage que celui qui aurait l'intention de parcourir ce traité chez le coiffeur ou dans le métro. En effet, loin d'être rebutant par son étendue, il est captivant par ses illustrations autant que par son style. Cependant, point n'est besoin de mentionner que le lecteur qui rechercherait des notions générales ou une vue d'ensemble sur la technologie maxillofaciale par exemple, serait peut-être découragé de se trouver en face d'une section de près d'une centaine de page à lire.

Cet ouvrage est conçu dans le but de couvrir chaque détail inscrit à la table des matières d'une façon aussi complète que possible, et peut aussi bien se trouver dans la bibliothèque d'un dentiste ou d'un chirurgien buccal, que dans celle d'un otorhinolaryngologiste, d'un orthopédiste, d'un ophtalmologiste, d'un neurochirurgien, d'un prothésiste ou d'un technicien intéressé.

Au début de chaque chapitre, on trouve des citations on ne peut plus appropriées de célèbres philosophes de l'Antiquité ou du Moyen Age, lesquelles témoignent d'une recherche patiente et soucieuse d'apporter cet assaisonnement philosophique qui nous fait réaliser combien l'humanité a depuis fort longtemps cherché des solutions aux traumatismes du massif facial. Ces réflexions d'Homère, d'Hippocrate, comme par exemple celle qui précède le chapitre passionnant des blessures de guerre et qui se lit: "La guerre est la seule vraie école du chirurgien", plonge le lecteur dans une réceptivité mentale comme seule une ligne de cette puissance placée au bon endroit peut le faire.

L'excellence de la photographie qui illustre ce volume est également à souligner. On a dit qu'"une image vaut mille mots", et bien si l'on y ajoute tout le texte écrit, on peut en conclure à une abondance de matière encore jamais égalée dans ce domaine.

Le chapitre qui traite des difformités résiduelles occasionnées par divers traumatismes comporte un excellent exposé des possibilités offertes par les greffes osseuses. Un peu plus loin, comme pour ancrer davantage notre compréhension de ces techniques pourtant déjà très bien expliquées, on nous offre une documentation excellente sur la structure de l'os et son mécanisme de réparation. On y voit là une continuité organisée et voulue, de nature à éliminer tous les points d'in-

terrogation qui pourraient surgir à l'esprit du lecteur.

Enfin, en appendice, les fêrus de statistiques sont servis à souhait par des tableaux comparatifs analysant les différentes causes et citant les pourcentages de fractures intéressant le massif facial, ainsi que les âges des patients traités et les méthodes variées des traitements utilisés.

Vraiment un volume captivant!

Léon Daigle

Additions to the Library

ACADEMY OF DENTURE PROSTHETICS, The. Glossary of prosthodontic terms. Ed 3. St. Louis, Mosby. (Rep. fr. the Journal of Prosthetic Dentistry 20:447-480, November 1968.) \$0.60

DENTAL CLINICS OF NORTH AMERICA, October 1969. Criteria for tooth removal. Philadelphia and Toronto, Saunders, 1969. Pages 729-1003. illus.

GILLINGS, B. R., ed. Diet and dental caries; a review of research. Sydney, Australia, University of Sydney. 24 p.

HALL, W. A. Sear's new teeth for old. Ed 5. St. Louis, Mosby, 1969. 101 p. illus. \$4.40

KAY, L. W. Drugs in dentistry. Bristol, John Wright & Sons Ltd, 1969. 208 p. illus. \$5.25

KILLEY, H. C. and KAY, L. W. The prevention of complications in dental surgery. Edinburgh, Livingstone, 1969. 228 p. illus. \$5.60

LAW, D. B., LEWIS, T. M. and DAVIS, J. M. An atlas of pedodontics. Philadelphia and Toronto, Saunders, 1969. 332 p. illus. \$23.80

MALENCON, A. Art dentaire et psycho-technique. Paris, Librairie Maloine, 1968. 123 p. illus.

MITCHELL, D. F., STANDISH, S. M. and FAST, T. B. Oral diagnosis, oral medicine. Philadelphia, Lea & Febiger, 1969. 426 p. illus. \$19.25

PETERSON, S., ed. Comprehensive review for dental hygienists. Ed 2. St. Louis, Mosby, 1969. 312 p. \$10.20

Taxation and representation

One corporate member's recent action in first proposing and later rescinding a cutback of its per capita grant to the Canadian Dental Association may actually turn out to be a blessing in disguise. Like nothing else, it serves to pinpoint a fundamental flaw in the CDA—its chronic inability to raise money in the amounts required to execute the services expected of it.

As matters stand, the CDA's revenue is principally derived from annual grants by the corporate members. The amounts of these grants are supposed to be determined by agreement among the corporate members. But recent events have shown how difficult it is to hammer out a consensus and how much harder it is to seek compliance once a consensus has been attained. The inevitable result is a hodge-podge of disparate provincial grants which is bound to strain cordiality within the profession. This is surely a luxury we can ill afford in these troubled times.

True, if one of the new by-law proposals were adopted next July, the grants would then be determined by the Board of Governors. But it is difficult to see how a decision of the Board would be any more binding upon the provinces than is now the case.

Even more unsettling is the prospect that unilateral departures from "agreed" grants can be repeated at will. This has the most serious implications for the financial stability of the CDA. How, after all, can the Executive Council budget for services which members request when the Association's income is constantly at the mercy of major and unpredictable fluctuations? No governments tolerate such uncertainties. No private enterprise can survive in such precarious circumstances. Why then should the profession's national association be allowed to drift in this unseemly fashion?

Surely it is high time for a searching look at how organized dentistry is financed. Let this examination start from the premise that we need a strong and vigorous national organization as well as equally strong and vigorous provincial and local bodies. This being so, each should command its proper share of the dentist's purse and not some arbitrary amount that is unrelated to the demands made of it.

Acting through their elected representatives, individual members should be free to determine the cost of membership in a given association. Having done

so, this rate should apply uniformly to all who desire the benefits of membership. Fees—whether as individual dues or as per capita grants—must never be subject to the vagaries of groups that represent less than a majority of the individual members who established the fees in the first place. That way lies only chaos and frustration.

Voluntary membership is another question that merits far more serious consideration than it has hitherto received. The urgency of such exploration is underscored by the recent pronouncements of the Economic Council of Canada and Ontario's McRuer Royal Commission on Civil Rights. Both have challenged the propriety of financing professional associations through licence fees collected in the pursuit of the public interest.

The CDA's income is now largely obtained through what is virtually a compulsory check-off. This system has undeniable attractions. But individual dentists should not be compelled to join an association merely in order to make it a more viable entity. The right of survival of such an organization is open to serious question.

It would be a pity to let the comfort and apparent safety of the present system deter the exploration of alternatives. We submit that the sensitivity and responsiveness imposed by voluntary membership could be a powerful stimulant, a tonic that helps an association to grow and improve so that, ultimately, no dentist will wish to remain outside. This may explain the success of the American Dental Association which is basically a voluntary body. Though membership in the ADA is not compulsory, we have yet to meet a dentist who believes he is better off without it.

A precipitate change would, of course, be traumatic. If the CDA were to become voluntary tomorrow, it would probably lose much of its current strength. Adequate preparation is essential if there is to be an orderly transition. Besides, there is surely a challenge in an unfettered CDA that is free to compete for the dentist's allegiance by offering him the services he seeks. If it succeeds—and other voluntary professional associations are living proof that it can be done—the CDA will win back its membership as well as the respect that comes from good performance.

The auxiliary in my office . . .

Many states in the nation are changing their dental practice acts to expand the duties of licensed and unlicensed personnel. Over twenty states contemplate changes in 1969 alone. Washington's dental practice act is archaic with respect to modern dentistry and the duties an intelligent dental assistant is allowed to perform. Our own president has asked for a joint effort of the Auxiliary Services Committee and the Legal Affairs Committee to consider this opportunity for improvement. He has suggested what duties should be delegated to whom, educational requirements, and legal considerations as areas to be explored.

As an individual practising in the State of Washington, I would like considerable freedom in the delegation of duties my dental auxiliary could perform. As a professional person with a deep respect for my patients and the sincere desire for excellence, I want to assume and take the responsibility for any procedures performed in my office. Therefore, any legal or limiting listing of duties to be performed or prohibited should be very minimal. This gives the professional the opportunity to train his auxiliaries to best perform the procedures related to his practice. It is his responsibility. I like it that way.

Pennsylvania, in 1967, expanded the duties of auxiliaries and made a summary statement of interpretation which read, "the Board places *full* responsibility for the work done by auxiliary personnel directly upon the dentist, and the Board is confident that members of the profession will not violate that trust." The duties of the assistant are determined by the dentist who employs the assistant, with the exception of a few procedures allocated by dental law to licensed dental hygienists.

There is absolutely no doubt, in my mind, that the concern over expanding the duties of dental auxiliaries is well founded. The increased load of dental care soon to be placed upon the dental profession will demand that we make the most efficient and intelligent use of our competent auxiliaries. I agree that areas of delegation, legality, educational requirements, etc. should be thoroughly explored, but I do hope we can keep it simple and straight-forward as I think Pennsylvania has done.

F. P. Baird

WSDA News, June 1969. Reprinted by permission.

Responsible versus irresponsible dissent

For a long time we have fondly preserved the fiction that the drama of social change is a conflict between dissenters and the top layers of the Establishment. But as the critics fling themselves in Kamikaze-like assaults on sluggish institutions, they eventually come into head-on collision with the people who are most

deeply implicated in the sluggishness, namely, the great majority. The stone wall against which many radical reforms shatter is the indifference (or downright hostility) of that majority.

The collision between dissenters and lower middle class opponents is exceedingly dangerous. As long as the dissenters are confronting the top layers of the power structure, they are dealing with people who are reasonably secure, often willing to compromise, able to yield ground without anxiety. But when the dissenters collide with the lower middle class, they confront an insecure opponent, quick to anger and not prepared to yield an inch.

It is at this point that young rebels find great appeal in Herbert Marcuse's ideas. When they think they are attacking the fat cats at the top of the social structure, democratic doctrine seems a serviceable banner to wrap themselves in. But democratic doctrine suddenly becomes a considerable embarrassment when they discover that "the people" they seek to liberate are in fact bitterly opposed to them.

Marcuse deals with that difficulty by saying that democracy and tolerance are themselves barriers to the overthrow of an evil society. He favours a more "directed" society. In doing so, he makes the assumption made by all who fall into authoritarian doctrines — that, in the "directed" society he envisages, people who share his values will be calling the tune. So thought the businessmen who supported Hitler.

The debasement of the critical role makes responsible action for social change increasingly difficult. The irresponsible critic never exposes himself to the tough tests of reality. He doesn't limit himself to feasible options. He doesn't subject his view of the world to the cleansing discipline of historical perspective or contemporary relevance. He defines the problem to suit himself. It's a hard game to lose. If he takes care to stay outside the arena of action and decision, his judgement and integrity will never be tested, never risked, never laid on the line. He can feel a limitless moral superiority to the mere mortals who put their reputation at hazard every day in accountable action.

The consequences of such feckless radicalism are predictable. Out of such self-indulgence come few victories. The model of the ineffectual radical is the man or woman who spends a few brief years exploding in indignation, posturing, attitudinizing, oversimplifying, shooting at the wrong targets, unwilling to address himself to the exacting business of understanding the machinery of society, unwilling to undergo the arduous training necessary to master the processes he hopes to change.

Those who are engaged in the gruelling work of accomplishing institutional change are in desperate need of allies. Responsible social critics can be of enormous help in identifying targets for action, in clarifying and focusing issues, in formulating significant goals and mobilizing support for those goals. The responsible critic comes to understand the complex machinery by which change must be accomplished, finds the key points of leverage, identifies feasible alternatives, and measures his work by real results. We have many such critics, and we owe them a great debt.

John W. Gardner

Science, April 25, 1969. Reprinted by permission.

Les absents ont toujours tort

Un livre vient de paraître qui devrait être lu par tous les dentistes. Intitulé *Le Monopole de la Médecine*,¹ ce livre du journaliste Teddy Chevalot analyse en détail les négociations menées par le gouvernement de la province de Québec avec les médecins dans le cadre de l'assistance médicale.

Les chapitres qui nous intéressent plus particulièrement sont ceux que M. Chevalot consacre à la discrimination que les médecins ont exercé à l'endroit des autres hommes de profession, comme les dentistes et les optométristes. Les médecins ont réussi à persuader le gouvernement qu'ils sont les seuls à avoir le droit de faire certains actes de chirurgie buccale et de se faire rémunérer. D'ici à placer le blâme du désavantage de notre position sur les épaules des médecins, il n'y a qu'un pas qu'il ne faudrait pas franchir. Les docteurs Robillard et Hamel, qui représentaient les médecins spécialistes et omnipraticiens du Québec n'ont accompli que leur devoir en obtenant les meilleures conditions possibles pour leurs adhérents.

Mais où étaient donc les dentistes? Comme toujours, divisés, "séparés", faibles, ils n'ont présenté qu'un assortiment de petites voix minuscules et chétives que le gouvernement n'a eu aucune difficulté à ignorer face aux colosses médicaux qu'il voulait complaire.

La majorité des dentistes a toujours maintenu la fausse impression que l'assistance médicale ne les concernait pas, que l'assurance-maladie ne les concernait pas, que l'union des dentistes ne les concernait pas! Une illusion qui nous a déjà beaucoup coûté depuis 1966.

Des précédents fâcheux ont été établis qui nécessiteront un effort considérable de notre part si nous voulons les démolir. Les dentistes ont été ignorés de-

puis 1966 au niveau de l'assistance médicale. Aucun dentiste ne fait partie de la nouvelle Régie de l'assurance-maladie où les dentistes sont représentés par un pharmacien. Une injustice! direz-vous? Pas du tout. De l'aveuglement pur et simple. "Nous courons sans souci dans le précipice, après que nous avons mis quelque chose devant nous pour empêcher de le voir", a dit Pascal.

Le dentiste ne semble pas vouloir reconnaître que les gouvernements (fédéral et provincial) jouent un rôle croissant dans la distribution des soins de santé et que cette tendance continuera. Lorsque le gouvernement participe comme troisième élément entre le dentiste et le patient, il se faut que les dentistes doivent se grouper en une unité homogène pour pouvoir lui répondre vigoureusement. Jusqu'à présent, les dentistes se sont efforcés de faire justement le contraire.

D'une part, l'Association Dentaire Canadienne est le dénominateur commun de tous les dentistes du Canada. Elle fonctionne dans les domaines d'intérêts fédéraux et internationaux et représente tous les dentistes. L'union des dentistes canadiens fait la force de la profession. D'autre part, il faut renverser tous les obstacles qui empêchent les dentistes de se faire entendre au niveau provincial. Selon Ignazio Silone, "le gouvernement a un bras long et un bras court; le long sert à prendre et arrive partout, le bras court sert à donner, mais il arrive seulement à ceux qui sont tout près".

A moins que la voix de la profession soit entendue bientôt, les dentistes pourraient être condamnés à devenir de simples fonctionnaires de l'Etat.

¹ Chevalot, Teddy. "Le Monopole de la Médecine" ou "Comment les médecins bloquent l'assurance-maladie", Montréal, Cahiers de Cité Libre, Editions du Jour, 1969.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

CDA by-law revision

With reference to the October 31-November 1 special Board of Governors meeting, as reported in the December Journal, first let me say that the Board did an admirable job in the proposed by-law changes. It made an honest attempt to inject new life into our national organization.

I would have to agree with Dr. MacLean's observation that expenses for Board meetings will certainly be increased. I don't know that this increase is warranted when one considers that the ratio of representation has not been changed at all—just the size of the Board.

The size of representation from corporate bodies might better be based on the amount of the grant given by that corporate body. Of course, if this were to be the case, then it would never be necessary to include the size of the grant in the by-laws.

*C. G. Halliday, DDS
200 MacMillan Bldg
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All in all, the revamping of the CDA Board of Governors, figuratively, should produce "black-ink profits."

May I emphasize, however, at least two areas of concern:

1. The additional costs involved seem considerable but, because of the peculiar CDA structure, there cannot be a guaranteed method of gaining sufficient increased income. Without this, meaningful effort is impossible.

2. It is the experience of most of us that a large expanded Board is often cumbersome and inefficient. This being so, the Executive Council may become so overworked that it may not be able to communicate and keep Board members well informed, much less the dentists at large.

Nevertheless, I feel it is fair to suggest that anything in a reorganizational way is better than CDA experiences of the past few years.

*A. H. Lane, DDS
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Ontario Science Centre

Congratulations to the Journal. It has now grown to adult size, the same format as *Le Journal dentaire du Québec*. This makes for more pleasant and attractive reading and allows the editor more flexibility in the layout.

I was immediately attracted in your January issue by the article on "Dentistry at the Ontario Science Centre." I read it with both elation and dismay. At last, dentistry is showing off in public. We have numerous achievements of which we can be proud, yet nowhere to boast about them. This exhibit will be of incalculable value to the public's dental health because thousands of adults and school children will see it. It will have the dual effect of making children and teenagers more conscious of dental health and it may trigger interest among many would-be candidates to the profession.

We in Montreal have a wonderful permanent Expo, but nothing with such an educational impact as the Ontario Science Centre! This exhibit should serve as a magnet to attract us all for a visit to Ontario's capital.

The editor also merits our warm and sincere thanks for focussing attention on this project and keeping us informed about what is going on in dentistry.

*Marcel Hébert, DDS
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Relations, College of Dental Surgeons
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Promotion for Dean Ellis

I would be grateful if you would inform your readers that Dr. R. G. Ellis, dean of the Faculty of Dentistry for the past 23 years, has been promoted to the position of chairman, the Council of Health Sciences, University of Toronto. He has therefore resigned his appointment as dean, effective December 31, 1969. For the next two or three years Dr. Ellis will devote himself to the co-ordination of the affairs of health sciences in the university.

Because of the long and close association the Faculty of Dentistry has had with the profession in Canada, the selection of a dean in the University of Toronto is bound to be a matter of signal importance to the many dentists who have been associated with this faculty at one time or another. In the interest of this relationship I am inviting any members of the profession who are so inclined to write to me. I shall be pleased to transmit their opinions to the Committee of Selection.

*John Hamilton
Vice-President, Health Sciences and
Chairman, Committee of Selection
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Direct pulp capping

We agree in general with Dr. Silbert's observations on the present status of direct pulp capping ("Coiffage pulpaire direct", January issue). His comments are well taken even though our paper (November issue) was not written as a review of the literature. We recognize the points which Dr. Silbert has raised. We hope every dentist who uses a pulp capping technique does likewise. In reply, we would offer some further comments:

1. Clinical tests did not necessarily predict the long-term prognosis of a tooth. Many teeth with a non-vital test lasted over the five year period. The converse was also true. This necessitates frequent postoperative recalls.

2. We reported the results of a long-term study. Therefore we do not regard the lack of microscopic evidence as a

major shortcoming. Moreover, the failures which occurred after several years could have yielded a normal histological picture at one time. We consider it significant that several pulps did not terminate in clinical failure regardless of what their interim histological picture might have been. At any rate, once a tooth is extracted and sectioned for microscopic study, any judgement about the success of the preceding treatment rests solely on the microscopic evidence.

3. Dr. Silbert contends that total pulp-ectomy is preferable to direct pulp capping in teeth with inlays, pin-retained amalgam restorations and teeth intended as bridge abutments. We believe that more research is needed to decide this question. A restoration other than a bridge abutment or removable partial denture should be designed so that it exerts less stress, not more, upon the tooth. Compared to published pulpectomy success rates, the success rate achieved in our study suggests that there would be few contra-indications to such restorations. Calcium hydroxide occasionally stimulates the formation of too much secondary dentine, as mentioned by Hermann, thereby jeopardizing a future pulpectomy. Such cases must be carefully selected according to which pulp cappings will most likely be successful.

We hoped that our clinical data would augment published information from other histological studies. It is unfortunate, however, that we did not provide such details as the rate of success correlated to the age of the patients. Perhaps we may be able to review the data and extract this information at a future date.

*M. D. Jones, DDS, MSD
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Scholarship for an Indian student

It occurs to me that an altruistic proposition whose purity is unassailable could tremendously enhance the image of the profession. I therefore put forward the following suggestion.

A scholarship could be established at a Canadian university and awarded to a suitable Grade 12 candidate of native Indian origin. The grant should cover all tuition fees, subsistence, books, instruments and, on graduation, the cost of equipping and establishing him in practice. A proviso should be built in, as in grants from the Armed Forces, requiring the student to serve his fellow Indians for not less than five years after graduation. This type of service might take the form of a travelling clinic.

If this proposal finds acceptance, it could be repeated each year and perhaps rotated with various Indian tribes. There are relatively few Indian members of the professions in Canada, and a dentist would be of inestimable value to a people in pathetic need of help.

Viewed unemotionally, I feel this would raise our status high in the public eye. It would not cost much compared to some of our other projects. It would be pure altruism and incapable of attack from any quarter.

Perhaps other readers may consider this a good idea?

*E. N. Screech
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Victoria, BC*

Aid for Nigerian dental school

As a Canadian dentist, I am writing from Lagos, Nigeria, where I am on a two year assignment with the Department of Dental Surgery of the University of Lagos Medical School. I would like to acquaint you with the opportunity to aid developing nations through "twinning projects" of technical and university assistance which are encouraged by the Canadian International Development Agency. These projects involve a joint agreement between a donor Canadian university (for example, a Canadian dental school) and a recipient overseas university (for example, the Department of Dental Surgery at the University of Lagos Medical School). The donor university agrees to provide the recipient university a certain number of teachers for a specified period. This arrangement permits the dean of the donor school to plan in advance for any temporary additional staff he may require while regular teachers are away on a CIDA assignment.

Twinning programs also provide for the acceptance by the donor university of one or more postgraduate students from the recipient university. On return to their own country these students release donor teachers who have served on assignment at the recipient university. CIDA pays all costs, salaries and tuition expenses for such overseas postgraduate students. This type of assistance encourages self-reliance by the recipient university.

Though there are several current successful twinning projects, none involve dentistry. It is most important that Canada's dental profession accept the challenge to aid developing countries. Such an opportunity now exists at the University of Lagos. I therefore invite any interested Canadian dental faculty to contact me directly or through the executive director of the Canadian Dental Association as soon as possible. I will

then present the name of the interested faculty to the proper authorities here in Lagos and I will also notify CIDA. Thereafter, the two faculties could communicate directly with each other. This could lead to a five year agreement, commencing in September 1970, during which the Canadian school would station one or two teachers in Lagos. One or both of these instructors should be specialists in restorative dentistry.

The agreement should also include a provision whereby my colleague and assistant, Dr. Akpota, would take, under CIDA sponsorship, two years' training at the Canadian donor university. He would return to Lagos in September 1972, eventually to take charge of the Department of Restorative Dentistry. Thereafter, only one Canadian teacher would be needed here for the remaining three years.

In the meantime, other Nigerians would be added to the staff during the first year of the agreement and would benefit from the Canadian teachers stationed here. Possibly, one of these Nigerian staff members could also be sponsored for further postgraduate training in Canada following Dr. Akpota's return.

I have only sketched the outlines of a possible dental training project. I am convinced that such a project is preferable to any stop-gap measures which may set in motion a fairly good department but falter when there are no trained Nigerians to follow through. I also see merit in having the same Canadian university—the same teachers, if possible—involved in training our university's future teachers and helping to organize our dental staff.

*W. B. Ellis, DDS
Department of Dental Surgery
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Lagos, Nigeria*

Forensic dentistry group proposed

As a result of attending a short course in forensic dentistry at the US Armed Forces Institute of Pathology, Dr. K. F. Pownall and I would like to organize a national committee to further interest and participation in this branch of dentistry.

The Fédération Dentaire Internationale already has an active committee in this field. It is hoped that a Canadian counterpart could be started at the forthcoming CDA national convention to be held in Winnipeg in July.

Dr. Pownall and I would be interested in hearing from anyone desirous of furthering this worth-while objective.

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Dialogue

"Dialogue" deals with issues affecting the Canadian Dental Association and its corporate members. Contributions are invited and should not exceed 700 words. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association.

You and your local dental society

We live in a world that is in a state of constant flux. Today, more than ever, this makes it necessary to unite in order to guide change in the proper direction.

The welfare of organized labour has been revolutionized by workers joining together to voice their aspirations. In fact, their unions have become so powerful that the tail seems to be wagging the dog instead of labour controlling its unions. We are left to wonder where this may lead in the future.

Dentists must never forget that the future of their profession will be decided by laws passed by politicians. Our parliamentary representatives are influenced to a much greater extent by united constituents than by individuals. Unity, as a consequence, is equally as important to dentists as to other segments of society.

Unity in dentistry begins at the local level, and a strong local society has much to offer the dental practitioner. It provides social intercourse with his confrères. Its clinical and business meetings offer him a forum for continuing dental education close to home.

Disputes between dentists and patients can often be resolved through mediation by the local society, leaving only the more complicated issues to the licensing board.

Recognition in times of bereavement and aid to members and their dependants in financial distress are also important local tasks. A vigorous society can further these objectives and make every member aware of local problems by publishing a lively news letter. The society can also help the public and the profession by fostering close and harmonious relations with local radio, TV and press outlets.

The local society offers a channel for continuing liaison with comparable organizations representing dental technicians and dental assistants. Through his society the dentist can also bring influence to bear upon provincial and national dental associations.

Additional beneficial services may range from supporting a worthy community project such as fluoridation, to recruiting for the dental profession or granting a bursary to a needy dental student.

The relationship between a dentist and his local group is perhaps best expressed by paraphrasing the late John F. Kennedy's stirring words: "Ask not what

your local society can do for you, but rather what you can do for your local society." First, support your society with whatever funds are necessary for its efficient operation. Secondly, offer your personal services in whatever direction your talents may lead. These two things can strengthen organized dentistry immeasurably and assure the profession a strong and respected voice in our nation.

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Reflections on a manpower conference

At the request of the President of the Canadian Dental Association, I attended the First National Health Manpower Conference in Ottawa last October 7-10. The meeting was called jointly by the Department of National Health and Welfare and the Association of Universities and Colleges of Canada (AUCC) because of their common interest in developing a program for improving the human resources of Canada in the health and health-related professions. It may be agreed that the health of all Canadians is dependent upon the competence and members of our health manpower, and also upon the efficiency of the system in which they function.

The objectives of the conference were to secure agreement on guidelines for:

1. Planning the delivery of total health services during the next decade;
2. Determining the numbers and quality of the health manpower required for these services;
3. Planning the education of the required health manpower.

The conference, which treated health manpower from a very broad point of view, was unique in the variety of representation it gathered. There were members representing 22 professional societies and 68 members representing 31 universities and colleges. There were also five representatives of AUCC committees involved in education in the health sciences, five representatives of provincial education authorities, 19 representatives of provincial health authorities, 10 representatives of consumer groups, 41 representatives of federal government departments and eight representatives of AUCC.

The keynote address by Dr. Joseph W. Willard, the Acting Deputy Minister of National Health, was frank in its criticisms of the lack of comprehensiveness and distribution of health care, the fragmentation of our provincial health service administrations, and the uneconomical use of highly trained professionals to perform simple tasks. This latter observation was repeated time and time again throughout the four days of the conference.

One of the most direct, provocative and unpromising presentations came from a prominent labour leader representing a large number of the consumers of health care delivery services. He made four important points:

1. Manpower quantity is important; but more important is the quality and organization to produce the most effective results. There are economies to be effected in our present system.

2. The distribution of health workers is not consistent with every citizen receiving the health care services he requires.

3. The consumer has an important role in the organization of health care.

4. Canadian planning tends to be conservative, and health care planning for the next decade must be considerably more creative, resourceful and bolder than in the past.

Summarizing the discussions, Dean J. F. McCreary (Faculty of Medicine, University of British Columbia) said that "possibly the subject which was referred to most frequently during the conference was that of allied health professionals becoming involved in providing primary health care as part of a team." This was the prevailing opinion expressed throughout the meeting. There were repeated assertions that highly trained professional personnel are not being employed in a manner consistent with their potential. The philosophy that a person of superior training should not routinely render services which could be delegated to those of lesser training was everywhere in evidence. And one resolution requested that the subject of assuring that the appropriate non-restrictive legal environment be one of importance at the next federal-provincial conference of ministers of health.

With all the persuasiveness I can muster, I again

urge the CDA to consider the vitally important substance of the resolution on auxiliaries which it has rejected on two occasions. This resolution submitted to the Board of Governors by the Auxiliary Services Committee and supported by the Dental Services Committee was resoundingly defeated both times. It simply sought acknowledgement of the fact that it is the dentist who should be responsible for the standards and quality of dental treatment received by his patients; that the dentist should have the right to delegate to persons over whom he exerts effective supervision and control such duties as do not require for their performance the professional knowledge and skill of the dentist; that every effort be expended by provincial licensing authorities to create the legal environment to make the application of the above principle possible; and that as a fundamental requirement for the statute and regulations under which dentistry is practised, the principle of the ultimate responsibility of the dentist be clearly and unequivocally enunciated.

If any further evidence of the anachronistic character of most professional statutes and regulations were needed, it was certainly supplied at this conference. I am convinced that if the dental profession does not now grasp the opportunity to bring into the twentieth century its policies and regulations bearing on the utilization of its allied services, then we shall simply have to accept what public opinion increasingly demands.

The prevailing mood of a very large body of influential people shows that the protection of alleged professional prerogatives will not be tolerated much longer. We must learn to accept from studies such as those in New Zealand, Great Britain, Alabama and by our own Royal Canadian Dental Corps that auxiliaries can be trained to perform, as competently as dentists, a broad spectrum of non-professional services which consume so much of the time of the most highly trained practitioners. If we are mature, responsible, and scientifically oriented people surely we must govern ourselves in the light of factual evidence.

I am becoming alarmed at our profession's apparent collective inability to understand or appreciate the significance of what is taking place in government circles and in the councils of several consumer groups. The monopolistic position we enjoy will only be maintained if we give much greater evidence that we are cognizant of the health service aspirations of the Canadian people. These aspirations, I am absolutely convinced, will be increasingly reflected in government policies and in the statutes and regulations which governments initiate.

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London, Canada*

Wives of the world unite!

Gwyneth McGregor

This article is reprinted with permission from the December 27, 1969 Financial Post. In it, Gwyneth McGregor, editor of the Canadian Tax Journal, cites the case of a dentist's wife who set up a corporation for the purpose of furnishing advice, services and supplies to several dental offices, including that of her husband. The income tax authorities refused to allow her husband to deduct the fee which he paid for the corporation, but the income tax appeal board reversed this ruling.

There is one glaring inequity in the Income Tax Act about which the white paper proposed to do exactly nothing.

Section 21(2) of the Act prohibits a person from deducting from his income a salary paid by him to his spouse. The provision was described by the Carter Commission as "unfair discrimination," which it is.

The situation involved is not uncommon. Doctors' and dentists' wives, for instance, frequently perform administrative services for their husbands in their practices, as do the wives of businessmen. If the businessman is incorporated, of course, that's all right; the wife's salary is deductible because it is paid by the firm, though the husband owns all the shares.

So this provision discriminates not only against taxpayers who employ their own wives instead of someone else, but also against taxpayers in professions which do not allow their members to incorporate.

Oddly enough, the white paper pointed out that the Carter Commission's "family unit" proposal would have placed "a tax on marriage," for if a wife went out to work her income would be added to her husband's and tax paid at the rate applicable to the combined incomes.

The government felt this to be "unfair and undesirable." But the effect of section 21(2) can be exactly the same.

This whole question came up in a recent decision of the Tax Appeal Board, in *Edwards vs Minister of National Revenue*. The appellant was a dentist who found that too much of his time was being taken up with bookkeeping and record keeping.

Accordingly, a corporation was set up with the object of furnishing advice, services and supplies for

dental offices. The appellant's wife was the sole shareholder, and performed administrative services for her husband. In addition, she traded in dental supplies, buying from wholesalers and selling supplies at retail prices not only to her husband but also to other local dentists.

The corporation, of course, paid Mrs. Edward's salary for managing her husband's office, but the minister refused to allow him to deduct the fee which he, in turn, paid for the corporation. The minister contended that the whole arrangement was really a means of remunerating Mrs. Edwards.

The board allowed the appeal. The acting chairman, R. S. W. Fordham, QC, said he found "all the earmarks of a genuine corporate enterprise begun primarily for the benefit of the appellant and not in order to overcome any particular facet of the Income Tax Act." The corporation, he said, "carried on business in a recognized and normal manner."

The minister had relied on a case, *Murphy vs Minister of National Revenue*, heard in 1968. In it a doctor's wife, who helped him in his office, was employed by a corporation which paid her a salary. Both the board and the Exchequer Court dismissed his appeal against the minister's disallowance of the fee paid by him to the company.

Mr. Fordham distinguished this case, saying that the corporation was owned by a friend of the taxpayer's and his wife, and did nothing for him beyond terming the wife its employee; the function of the corporation was simply to "funnel back" to the doctor the amount received by it.

The essential difference between the two cases therefore seems to be that in the *Edwards* instance the corporation did more than just supply the services of Mrs. Edwards; it traded in dental supplies and so established itself as carrying on business.

The point of the whole business is that there is nothing inherently wrong in allowing a husband to deduct a salary paid to his wife. He definitely ought to be allowed to do so provided the amount is reasonable, she does in fact perform the work, he would otherwise have to pay someone else to do it, and it would be deductible if it were paid to that someone else.

Such a deduction, if permitted, could obviously be open to abuse. But since the onus is on the taxpayer to prove his case, each individual claimant would have to show that the expense was a genuine business one.

It is not fair to penalize honest taxpayers merely because there are some dishonest ones who might try to take advantage of the deduction.



David Kenny, fourth year student from the University of Western Ontario and a member of the CDA Student Membership Committee, was chairman of the first Canadian Dental Students Conference last November 20-22.

Let's rap!

Students tell and learn it like it is

For those over thirty, an invitation to "rap" may well conjure up visions of a long-haired, leather-clad young militant exhorting his contemporaries to march on the establishment.

But the Journal is not about to chronicle the drama of our times — the confrontation between students and the general establishment. We report instead a significant, if not dramatic, moment in Canadian dentistry — the first conference between students and the dental establishment.

In the hip jargon of today's youth, the expression "rap," despite its proclivity to engender visions of violence, is merely an abbreviation of the word "rapport" which means to relate harmoniously or sympathetically. And so, in this context, "let's rap!" is an invitation to get together, to relate harmoniously and sympathetically.

And who extended the invitation? Well, forget that long-haired, leather-clad militant and dismiss any notions of aggressive confrontation. Think instead of two dentists and one student proposing a plan for the establishment to confer with the students. They are J. A. Bigelow, past president of the Toronto Academy of Dentistry; Ivan Hrabowsky, president-elect of the Ontario Dental Association; and David Kenny, a fourth year student at the University of Western Ontario. They constitute the CDA's Student Membership Committee which is a subcommittee of the Council on Education. These three, together with Council Secretary Kay Kirker, planned the first Canadian Dental Students' Conference.



Conference participants wasted no time in getting down to the real gut issues. Pictured on the extreme left is J. A. Bigelow, chairman of the CDA Student Membership Committee. CDA Executive Director W. G. McIntosh is in the left foreground.

Student member program

Doctor Bigelow and his colleagues wanted to bring dental students closer to what was happening in the CDA. The first major step was taken in January of 1968 when the CDA established the Dental Student Membership Program. Invitations were sent to each of the nine dental schools advising that for \$5 a dental student would receive a CDA student membership card, a monthly copy of the *Journal* and the opportunity to secure coverage under the CDA-sponsored insurance scheme.

Approximately 300 dental students joined that first year. Two years later, in 1969, membership had grown to well over 500. Doctor Bigelow wasn't happy, though. This still represented only about one-third of all the dental students in the country. He set out to discover what the problem was, why membership was not growing more rapidly.

One of the problems he discovered was that students didn't feel they were getting their money's worth, even though the \$5 membership fee wasn't sufficient to cover the cost of what they were receiving and the CDA was subsidizing the program.

Another major problem was a lack of regular and adequate communication. Students weren't really informed of the many varied complexities of the CDA's organization and function. This contributed to a lack of enthusiasm as well as a lack of awareness.

This is not to say that the CDA had not attempted to communicate with dental students. Attempts were made, but they proved unsatisfactory to both the students and the CDA. A new approach to the problem of establishing sound communication with the students was required.

In October of 1969, Doctor Bigelow proposed to

the CDA Student Membership Committee a plan for a dental students' conference to be held at CDA headquarters in Toronto November 20-22. The plan proposed that a delegate be invited from each of the nine dental schools, the delegates from each school to be elected by their fellow dental students.

The proposal received immediate approval from the chairman of the Council on Education. Financing for transportation, accommodation and meals for the student delegates was arranged through the Canadian Fund for Dental Education.

Invitations immediately went out to the dental student organizations and a conference chairman was chosen. David Kenny was appointed chairman.

Mr. Kenny, working with the Student Membership Committee, prepared the conference agenda. The agenda was distributed to the delegates prior to the conference, enabling them to study the topics carefully and assess the views of their fellow dental students. Upon arrival in Toronto, delegates were completely prepared to enter into depth discussion and were able to bring to the conference the views of their colleagues and of their respective dental school faculties.

It was not to be all work at CDA headquarters, however. Delegates were to enjoy the hospitality not only of the host CDA, but also of the Ontario Dental Association and the University of Toronto dental school.

Wednesday evening, November 19, the CDA played host to the delegates at a reception held at the Park Plaza Hotel. This provided an excellent opportunity for the delegates to meet each other and their hosts under informal circumstances. The reception proved to be the ultimate in establishing an early congeniality.



Vancouver's Brook Gardner (fourth from the left, facing camera) told the group about recent CDA student member activities at the University of British Columbia.

Basic sciences

The conference got under way at nine the next morning with a spirited discussion about basic science teaching. Discussion leader was A. T. Storey, associate professor of dentistry at the University of Toronto.

Delegates gave a brief description of the size of their classes. This, of course, represented a major difference between the dental schools. They went on to describe the impressions they had of each area of basic science to which they were exposed through their universities generally and their dental schools specifically.

Discussing the reasons for teaching basic science, the observations ranged from providing a basis for clinical treatment, through fascination for science, to mere window-dressing to create a profession out of a trade.

An excellent educational background in science was held essential as a basis for improved diagnosis. The ability to diagnose, plan treatment and prevent future illness was cited as the primary difference between the modern clinician and the practitioner who does not fully employ his basic science knowledge.

There was a collective belief that, if dentistry is to move ahead, dental schools must produce a number of people interested in research careers and new graduates must be given the background to implement new techniques and concepts in their own practices.

The increasing use of auxiliaries and the spreading popularity of group practices were considered to be the main methods of freeing dentists from repetitive tasks and allowing them to engage in diagnostic procedures better suited to their advanced training.

In discussing the ideal clinician to teach dental students, the group agreed that he should be a dentist

with the personal qualifications of a good teacher and the professional qualification of a doctorate in basic science.

The delegates were generally pleased with the quality of basic science teaching in those schools where the sciences are taught in conjunction with medicine. They complained, however, that there is often little or no application of the sciences in dentistry.

It was the group's opinion that they would rather be taught basic sciences along with medical students than be instructed by an unqualified or disinterested dental teacher.

The recommendations and statements emanating from this particular discussion said:

1. There will be considerable change in emphasis of the duties of the practitioner leading to increased concentration on prevention, diagnosis, and treatment planning. These changes will be initiated as a result of more basic knowledge and made possible by increased use of dental auxiliaries to perform the repetitive procedures.

2. These changes will require a greater role for basic science teaching in the new curriculum.

3. The delegates favour re-direction of clinical time, reduction of technical laboratory procedures and increased use of auxiliaries to achieve this end.

4. The ideal curriculum should provide certain basic sciences on a vertical (all four years) rather than horizontal (all in two years) type of scheme.

5. Much basic science laboratory time is wasted. The delegates recommend a review and re-direction of laboratory time with increased application to things dental. This is dependent on verticalization of the curriculum.

Clinical sciences

The afternoon session, led by R. E. Jordan, professor and chairman of the Department of Restorative Dentistry at the University of Western Ontario, centered on the teaching of clinical sciences. The topic has equal importance for clinical as well as basic scientists. Yet, all too often the student has to correlate basic and clinical science as best he can. Only by having clinicians grounded in basic science and able to "speak the language of basic science" is a true integration of concepts and techniques possible.

Doctor Jordan suggested that clinical specialty areas should have at least one full-time clinician to produce the policy and philosophies of the department and part-time specialists who serve a supportive role and follow department policy in clinical teaching. New part-time demonstrators should go through the pre-clinical program before demonstrating on the clinic floor. In this way, the student would not be subjected to a myriad different techniques and ideas.

Each delegate explained the clinical requirements at his school. These ranged from a fairly rigid point system through a modified point system, based on quality, to no formal requirements. The rigid point system of the past was labeled by Doctor Jordan as the crudest form of clinical teaching. It was conceded that there is no ideal system of assigning patients to students. The advantages and disadvantages of "total patient care" and "specific assignments" systems were compared.

Early clinical experience was considered advantageous for several reasons. It eliminates the dramatic

transition from the preclinical to the clinical phase of education. It gives first year students an opportunity to participate in clinical dentistry. It prevents loss of interest during pre-clinical years. And, there is an educational advantage in applying pre-clinical technique instruction at an early date.

The delegates also agreed that the curriculum should be flexible enough to allow some senior students to teach certain procedures to first year students.

The following recommendations and suggestions emerged from this discussion.

1. The primary responsibility for correlating clinical and basic sciences rests upon the clinicians. To achieve this, full-time clinicians should have an enriched background in the basic sciences beyond the undergraduate level.

2. Certain clinical sciences should be taught on a vertical rather than horizontal scheme.

3. First year students should have early clinical exposure to patients and treatments, such as simple restorative procedures, oral prophylaxis and hygiene.

4. There should be greater and improved utilization of dental auxiliaries in undergraduate programs.

5. There should be less emphasis on technical procedures performed by dental students and more emphasis on clinical experience.

6. Review and reduction of clinical time should be undertaken to integrate with verticalization.

7. As curriculum is of vital importance to the student, there should be student representation on all curriculum committees.

8. Evaluation of a procedure should be given



Ten students from nine Canadian dental schools attended the first Canadian Dental Students Conference. They are (front row, l to r) Randall Whyte, University of Toronto; Brook Gardner, University of British Columbia; David Kenny, University of Western Ontario and conference chairman; Ed. Dore, University of Western Ontario; (back row, l to r) John Christie, Dalhousie University; Thomas Bradley, University of Alberta; Georges Prévost, Université de Montréal; Frank Hechter, University of Manitoba; Bernard White, University of Saskatchewan; and Albert Frydman, McGill University.



CDA insurance programs for dental students were examined on the last day.

immediately after its completion in the form of constructive criticism.

9. It is imperative that part-time instructors be aware of established department clinical procedures.

10. Supplemental clinical experience and instruction should be offered in clinical subjects during the summer period for students who would otherwise fail and be required to repeat their year.

11. Opportunities should be afforded students to hear as many visiting guest lecturers as possible.

The first day of the conference culminated in a delightful reception and dinner tendered by the CDA at the Toronto Cricket, Skating and Curling Club.

Student services

The next morning was set aside to evaluate student government, the Canadian Dental Association's student membership program and the general subject of finances. Following this discussion which was led by the chairman, the delegates were given a tour of CDA headquarters. They were then taken to the University of Toronto where they toured the Faculty of Dentistry and were the luncheon guests of Dean R. G. Ellis.

A discussion that afternoon was led by D. Murray McDonald, executive director of the Canadian Fund for Dental Education. Mr. McDonald described the history and philosophy of the Fund and said that CFDE, to date, had invested \$150,000 to finance various projects.

Projects currently being supported by the Fund include teaching and research fellowships to dentists intending to teach in Canada; aid to the Association of Canadian Faculties of Dentistry; grants to a Dalhousie University experiment in student field training; and, of course, the students' conference.

Also discussed at this session were the status of CDA student membership at each of the schools, as well as the problems of selecting delegates from each dental school.

The following suggestions and recommendations were approved:

1. That the Canadian Dental Students' Conference be made an annual event.

2. That permanent sponsorship be solicited to fund the conference and assure its continuity.

3. That delegates be selected by the following criteria: they must be student members of the CDA; they must be members of the executive of their dental students' society or council (whichever pertains), and must be appointed by the same; they must be third or fourth year students.

4. Upon returning to school, each delegate will be the Canadian Dental Association representative for this particular school.

For Friday evening, the Student Membership Committee secured tickets to the Canadian Intercollegiate Football Championship at Toronto's Varsity Stadium. The game was between the University of Manitoba and McGill. Originally, the schedule had called for a "free evening," an opportunity for the delegates to enjoy the sights and sounds of Toronto. That was until the University of Manitoba's Frank Hechter insisted, as Westerners are wont to do, that the football game was where the action was. And to Hechter's delight and the chagrin of McGill's Al Frydman, Manitoba defeated McGill to win the national title.

Political organization

Saturday morning it was back to 234 St. George Street again where the delegates were addressed by H. R. MacLean, president of the Canadian Dental Association. Doctor MacLean discussed "Dental Political Organizations" and described the many and varied complexities of the CDA's organization and function.

Doctor MacLean urged the delegates to become involved in dental politics as well as community action. He recommended that students be invited to the national convention as students are so invited in the United States. There would be no problem, Doctor MacLean added, if a student member wished to attend and audit the meeting of the CDA's Board of Governors.

Also addressing this session was Ivan Hrabowsky, president-elect of the Ontario Dental Association. Doctor Hrabowsky outlined the system of dental organizations in each province. Some provinces have separate licensing boards and dental associations and other provinces combine the two. Some cities have one local dental society, whereas others may have several societies either co-operating or in apparent competition with each other.

Doctor Hrabowsky expressed the view that the ideal situation would be a free line of communication from the practising dentist to the national organization through his local and provincial societies.

The delegates were interested to learn from Doctor Hrabowsky that the Ontario Dental Association grants floor privileges to student governors from the University of Western Ontario and the University of Toronto and pays their expenses to attend ODA Board meetings.

The delegates then questioned Doctor MacLean and CDA Executive Director W. G. McIntosh about student representation in the Canadian Dental Association. They learned that student members who wish to have an item of business discussed at the Board of Governors' meeting have two alternatives for making a presentation — they can speak if permitted by the Chairman of the Board, or they can send a brief in advance through the Student Membership Committee to the Council on Education or the Executive Council. Then, when the Board of Governors' reference committees meet to discuss the education or executive reports prior to presentation to the Board, student members are welcome to attend and may comment freely on matters of concern to them.

The delegates voiced the desire that a student member be placed on the Board of Governors, a student section of the CDA be formed and that space be provided in the CDA Journal for student news.

Doctor McIntosh replied that the first goal of the student program was to assess student interest. This interest having been shown at the conference, along with the desire and willingness to take the initiative, future action will now be planned. Doctor McIntosh also emphasized that student members must be prepared to accept the increased responsibility that accompanies expanded representation.

The Student Membership Committee will continue to be the initiator of student conferences, the centre of the CDA's student membership recruitment and the innovator of new ideas and projects relating to dental students. With a CDA student representative in each dental school, there are now clear lines of communication between the students and the committee.

Insurance

The last session of the conference provided the delegates with a thorough explanation of the new CDA Insurance Plan. D. C. Way, chairman of the CDA's Insurance Committee, outlined three areas of particular interest to dental students:

All student members may purchase \$5,000 worth of insurance, even if not insurable elsewhere, through the CDA plan. Upon graduation, a total of \$10,000 can be

purchased by those who are otherwise uninsurable. Students who are insurable can purchase up to \$100,000.

A guaranteed insurability rider can also be purchased for \$15 per year. This permits the purchase of an additional \$12,500 of insurance at age 30, 35 and 40, even if the purchaser becomes otherwise uninsurable.

The third item is the graduation package. For \$35 a new graduate can purchase \$25,000 in life insurance, a monthly income replacement of \$400, a monthly office overhead protection of \$200, and a full malpractice contract from the time of graduation until October of that year when he can re-negotiate his insurance needs. Under ordinary circumstances this coverage is worth approximately \$80.

A brochure outlining the complete insurance plan is in the publication stage and will be distributed to schools as soon as possible.

Other recommendations

Other specific proposals emanating from the conference asked:

That student interests be considered by CDA committees — for example, the inclusion of students' instruments as tax deductible items when the Committee on Taxation makes representations to the federal government and

That funds be made available for student participation at CDA convention clinics.

All the proposals have been forwarded by the Student Membership Committee to the Council on Education. The Council has considered all aspects and incorporated its own recommendations. The combined package goes to the Board of Governors at the national convention. That which is accepted by the Board will become law.

Delegates attending the conference were: John Christie, Dalhousie University; Georges Prévost, Université de Montréal; Albert Frydman, McGill University; Randall Whyte, University of Toronto; Edward Dore, University of Western Ontario; Frank Hechter, University of Manitoba; Bernard White, University of Saskatchewan; Tom Bradley, University of Alberta; and Brook Gardner of the University of British Columbia.

These nine young men and their chairman, David Kenny of Western, responded to the CDA's invitation to "rap" with enthusiasm, energy and initiative. A rapport was established between the students and the establishment and the conference was made a success through the harmonious interaction of the participants.

That is not to say, however, that both sides did not "tell it like it is." Candor ruled the conference, as it had to. This being the first meeting, and with another meeting possibly a year away, there was no time to be wasted in non-productive patter.

In the words of Conference Chairman David Kenny, "Canadian dental students have finally met and started a plan for their national organization, the Canadian Dental Association. Those who met the delegates were amazed at their enthusiasm. If the opportunities are provided, those same persons may be equally amazed by their energy and involvement."

The Association

CDA will reply to tax proposals

CDA Executive Director W. G. McIntosh has announced that the Canadian Dental Association will submit a brief outlining its reaction to the federal government's white paper on tax reform, published last November 7. A statement is now being prepared by the tax department of the Association's new solicitors, Messrs. Shibley, Righton and McCutcheon.

Thereafter the brief will be considered by the Executive Council's Subcommittee on Taxation (H. N. Beach, chairman, E. J. Siegel and W. J. Spence) and subsequently by the Executive Council when it meets February 23-26. The House of Commons Finance Committee, which commenced study of the tax white paper on January 15, has set March 1 as the deadline for the submission of briefs.

Prince Edward Island sets CDA grant at \$65

The Prince Edward Island Dental Association has decided to increase its per capita grant to the Canadian Dental Association to \$65 this year.

This means that six provinces—British Columbia, Alberta, New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island — are now at the \$65 level. Saskatchewan gives \$55; Manitoba gives \$50; and Ontario and Quebec each give \$40 per dentist.

International Items

Oral surgery meeting set for Amsterdam in May 1971

The International Association of Oral Surgeons (IAOS) will hold its fourth international conference in the Congress Centre at Amsterdam, May 17-21, 1971.

Included in the scientific program are symposia on benign osseous tumours of the jaws and on the maxillary sinus.

Other discussions will centre on traumatology of the facial skeleton. In a special session trainees will report on the results of their research programs.

Films will be presented continuously throughout the conference. Professional literature, new instruments and equipment will also be exhibited.

Social functions include a reception at the Dutch National Museum, a ballet performance, a banquet, excursions to the Delta Works, golf tournaments and yachting.

For further information, please write to the Secretariat, IVth International Conference on Oral Surgery, Congress-bureau Inter Scientias, PO Box 9058, The Hague, Netherlands.

Dental Organizations

Dr. Anderson installed as president of Nova Scotia association

At a recent meeting of the Nova Scotia Dental Association N. B. Anderson, Lunenburg, was installed as president, succeeding E. L. MacIntosh, North Sydney. Other officers are C. E. Dexter, Halifax, president-elect; W. B. Coleman, Halifax, vice-president; D. C. T. MacIntosh, Halifax, secretary; and M. A. Harquail, New Glasgow, member-at-large. J. E. Merritt of Halifax was again named delegate to the Canadian Dental Association's Board of Governors.

Dr. Halliday is president of Saskatchewan college

The new president of the College of Dental Surgeons of Saskatchewan is C. G. Halliday of Saskatoon. He succeeds F. T. Wihak of Regina. F. L. Pierce, Swift Current, was named vice-president.

Propose formation of forensic dentistry group

Two Toronto dentists, J. D. Purves and K. F. Pownall, hope to start a national organization of dentists interested in forensic dentistry. The subject concerns

the handling and examination of dental evidence and the presentation of dental findings in jurisprudence.

Dr. Purves says relatives, insurers, law enforcement agencies and historians increasingly seek aid from dentists in identifying human remains. Because of their relative indestructibility, teeth and dental restorations are a useful tool for establishing positive identification, he says.

The Fédération Dentaire Internationale already has a six member Subcommittee on Forensic Odontology. Similar organizations exist in the Scandinavian countries and in Japan. A Canadian group, says Dr. Purves, could join with these bodies to promote world-wide study and development of forensic dentistry.

Interested readers are invited to write to J. D. Purves, 170 St. George Street, Toronto 180 or K. F. Pownall, Registrar-Secretary-Treasurer, Royal College of Dental Surgeons of Ontario, 230 St. George Street, Toronto 180.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on December 31:

Government Bond Fund \$13.543;
Corporate Bond Fund \$14.800;
Common Stock Fund \$25.235.

Total assets (market value) of the plan were \$9,565,508.04.

The following portfolio purchases and sales occurred during the preceding month: bought 4,000 shares Oshawa Wholesale Ltd A; 1,000 shares Bank of Nova Scotia; 2,500 shares Western Broadcasting Co Ltd 5.75 per cent preferred; and 3,800 shares Western Broadcasting Co Ltd common stock; sold 2,500 shares Western Broadcasting Co Ltd 5.75 per cent preferred.

The closing date for applications and contributions applicable to the taxation year 1969 is February 15, 1970. Applications and contributions received thereafter will entitle participants to tax deferment for 1970.

For further information please write to CDA-sponsored Retirement and Insurance Plans, 230 St. George St., Toronto 180, Ont.

Dental Education

Sixteen pass Royal College exams

The Royal College of Dentists of Canada has announced the names of 16 dentists who successfully passed examinations held last September and November.

Nine candidates were successful in the Part I (Basic Sciences) examination held September 23-26. They are:

Oral Surgery—H. Phillips, Willowdale, Ontario.

Orthodontics—R. Albert, Ottawa.

Paedodontics—J. S. Geller, Toronto; R. L. Moran, Willowdale, Ontario; and K. C. Titley, Toronto.

Periodontics—E. Freeman, Toronto; and E. M. Hershenfield, Montreal.

Prosthodontics—J. Cutler, Toronto; and J. B. Houston, Los Angeles.

Three candidates passed the Initial Interim Examination for fellowship November 21-22. They are:

Orthodontics—V. B. Griffiths, Roxborough, Quebec; R. M. Perry and G. W. Street, both of Calgary.

Four candidates were successful in the Part II (Oral) examination held November 21-22. They are:

Oral Surgery—Paul Chapnick and V. N. Drenfeld, both of Toronto; and C. W. Oyer, Calgary.

Periodontics—H. I. Taub, Toronto.

Toronto faculty holds open house February 15

Dental education will again be on public display when Toronto's Faculty of Dentistry holds its annual "Open House" on Sunday, February 15, from 1.00 to 5.00 p.m. Everyone interested in dentistry is invited to come and bring their families and friends. Visitors will be able to tour the dental building and see demonstrations and exhibitions by students. There is no charge and refreshments will be served.

The dental building is located at 124 Edward St., off University Ave., immediately south of the Hospital for Sick Children.

Dr. Gardner, UWO professor, becomes diplomate of American Board of Oral Pathology

D. G. Gardner, associate professor of pathology at the University of Western Ontario's Faculties of Dentistry and Medicine, recently completed the examinations of the American Board of Oral Pathology and is now a diplomate of the Board, the first Canadian and one of only three persons outside the United States who has earned this high

distinction. The qualification of diplomate is the higher of two sponsored by the American Board of Oral Pathology. The other is the fellowship which Dr. Gardner earned in April 1966.

Dr. Gardner is a 1958 graduate of the Faculty of Dentistry of the University of Toronto. He earned the MSD degree in oral pathology at Indiana University in 1965. In addition to his teaching and research responsibilities, Dr. Gardner is the director of the UWO oral pathology biopsy service.

Increased bursaries for Ontario dental students

Bursaries from the Ontario Department of Health, for undergraduate dental students, have been increased substantially. They are now available in the following amounts: \$3,000 per year for each of the last three academic years, and \$400 per month during the three summer months for serving a preceptorship with a general practitioner in Ontario.

The bursaries are intended to assist and encourage Ontario dental students to enter general practice in designated areas that lack practitioners.

After graduation, bursary recipients are required to practise in such areas for one full year in return for each year of bursary assistance.

After graduation, additional funds are available for establishment of a practice. This support amounts to \$5,000 for the first year and \$3,000 a year for any additional year up to a maximum of four years.

Alternatively, graduates may contract with the Department of Health to practise in an underserved area for a guaranteed net annual income of \$22,000.

Educational opportunities

Continuing education

Dalhousie University Faculty of Dentistry, Halifax, offers a one day postgraduate course on communication in dental health education, April 3. Mrs. Maurine Horsman of Dalton, Mass., is the instructor. The registration fee is \$15. Direct inquiries to D. V. Chaytor, chairman, Continuing Education Committee, Faculty of Dentistry, Dalhousie University, Halifax, NS.

Economics

Mr. Basford likes most of Economic Council's proposals

The Combines Act changes which Ottawa hopes to introduce later in the cur-

rent session of Parliament is likely to reflect most of the suggestions of the Economic Council of Canada.

The *Financial Times* reports that Mr. Ronald Basford, minister of consumer and corporate affairs, strongly supports the council's proposal for a competitive practices tribunal to investigate and supervise price discrimination, specialization and other business activities.

This would be a direct federal move into the field of civil law where the provinces claim jurisdiction over property and civil rights. But Mr. Basford may be hoping for a justice department opinion which will let him base the tribunal proposal on the constitution's trade and commerce clause—a federal jurisdiction.

He has also accepted the council's proposal to include service industries (including the professions) in competition legislation.

Mr. Basford's bill will probably reach the House of Commons late in the session and then be held over to the next session to give citizens a chance to study it.

Mechanics issue heats up in Manitoba

A leader of Manitoba's dental mechanics has reportedly warned that illegal practice by members of his group will continue if their activities are not legalized by the provincial government. In a hearing last December before the legislature's special committee on dental services, he said some mechanics may be tempted to practise outside their present scope unless controls are standardized for all. He told the committee that he and his colleagues would agree to a two year technical training and two year apprenticeship program for new trainee mechanics, and also to retraining existing mechanics if they would be able to continue to make and fit dentures while retraining.

A second year student from the University of Manitoba's Faculty of Dentistry took sharp issue with the mechanics. He warned the committee that by legalizing mechanics, the government could permanently remove them from the dental team, thus impeding the growth of dentistry as an integrated health service.

A. J. Shinoff, president of the Manitoba Dental Association, reportedly warned the committee that the dentist-sponsored Manitoba Denture Clinic, established in 1960 to provide low cost professional denture care without a means test, may close if the provincial government allows mechanics to do dentists' work legally.

Dr. Shinoff said that the dental association recently declared a moratorium on the prosecution of mechanics when it was thought new legislation was pending but that during this moratorium period the mechanics "proliferated like rabbits."

The continuing controversy over the mechanics dates back to an earlier committee which in 1964 concluded that "dentists should retain full control of and be fully responsible for the oral health of the public" (J Canad Dent Ass 32:388, 1966). Its report said that only qualified persons should work in patients' mouths. It also urged that dental mechanics be brought under a proposed Manitoba Dental Technicians Act and absorbed as auxiliaries into the dental health field. No legislation was enacted pursuant to this report, however.

New law governing professional practice predicted for Quebec

According to press reports, a new law may be introduced early during the 1970 session of the Quebec National Assembly to enable "immigrant doctors, dentists and druggists to practise their professions almost as soon as they arrive in the province."

The remark, attributed to Quebec Immigration Minister Mario Beaulieu, came in response to complaints from discontented Francophone North African immigrants who want to move to Alberta because, among other things, they dislike remaining "unemployed professionals in Quebec."

Current legislation governing dentistry in Quebec prevents an immigrant from practising unless he acquires a licence and is a Canadian citizen or declares his intention to become a citizen.

Research

Find phenylephrine improves haemostasis after oral surgery

Two Seattle scientists have shown that phenylephrine (Neosynephrine), a synthetic vasoconstrictor, prevents blood loss more effectively than adrenalin; and intravenous replacement of fluids during the first postoperative day reduces complications.

When most of the teeth are extracted simultaneously, general anaesthesia is commonly required, yet patients frequently expect to be up and back at work almost immediately. However, studies by R. Meyer and G. D. Allen at the University of Washington, Seattle, show that more blood may be lost in these cases than in a number of major operations. They also find that initial mouth discomfort can prevent patients from drinking enough fluid to restore chemical balance and speed recovery. It is important, therefore, to reduce blood loss and to replace fluids rapidly.

Blood loss during full-mouth extractions was measured and three commonly used agents, injected locally to re-

duce loss of blood from the smaller capillary vessels, were compared. No statistically significant difference was evident in the average losses during the operation. However, the loss of blood during the postoperative period was significantly different, averaging 224 ml with adrenalin, 131 ml with saline, and 99 ml with phenylephrine.

Doctors Meyer and Allen found that phenylephrine acts over a longer period of time, permitting better blood clotting. It also lacks the drawbacks of adrenalin, which first contracts but later dilates the blood vessels, and can cause erratic heart beats with some anaesthetics.

The investigators recommend the use of phenylephrine during extractions and intravenous replacement of fluids postoperatively in order to control blood volume more effectively, to speed recovery and to reduce complications.

Measure disintegration of dental cements in mouth

Investigators at Indiana University have devised an appliance worn in the mouth that provides for comparison-testing of the disintegration of three dental cements.

It consists of a cast gold partial denture with two large grooves or windows in which test cements are placed. Each cement remains in the mouth at least 30 days, and the dentures are weighed before, during and after the test to establish amount and rates of loss. Also, changes in the surface area are measured by a planimeter.

The investigators tested zinc phosphate, silicate, and zinc oxide-eugenol cements. They found considerable individual variation among patients in the rate and amount of loss of each cement. Individual variation was greatest for zinc oxide-eugenol cements and much less for silicate cements.

However, disintegration rates in the mouth had no direct relation to previous laboratory tests. Zinc oxide-eugenol is much less soluble than the other two cements in the laboratory, yet disintegrates appreciably faster in the mouth. Much of this loss comes from abrasion. Zinc oxide-eugenol wears away 35 times faster with brushing, whereas zinc phosphate abrades only about five times as fast as silicate cement.

The investigators conclude that measures of solubility and abrasion in the mouth are necessary for predicting the wearing quality of cements, and are of more value than laboratory tests.

Allergic response implicated in periodontal disease

New findings by American dental researchers indicate that hypersensitivity

to actinomyces, a filamentous micro-organism present in dental calculus, may play a role in periodontal disease.

In animal trials, the investigators injected guinea pigs with one of four types of actinomyces and later skin-tested the animals with cell-free cultural filtrates (termed actinocins) which were prepared from the actinomyces. Controls were tested with the culture medium and actinocin. While no reactions occurred in the controls, undiluted reagents gave the strongest reactions.

After immunization with actinomyces, the guinea pigs became sensitized to homologous actinocin; also the animals were sensitized to related heterologous antigens. One serotype was used in human skin tests: the actinocin derived from *A. bovis*, which originally was isolated from dental calculus in a normal individual.

The skin tests revealed that twice as many people with periodontitis were hypersensitive to *A. bovis* reagents as were others with "normal" gums.

Use laser to fuse porcelain to gold

A Simon Fraser University physicist is working with a Vancouver technician to devise a new method of fusing porcelain to gold using a laser beam. Their success could mean savings in the time and expense now involved in making crowns and bridges.

Because porcelain expands at a different rate from the metal, dental technicians have been using a gold alloy to seal the porcelain to the metal—an expensive operation which takes several minutes in a 2,000°C oven.

J. C. Irwin of the Simon Fraser physics department, working on an idea from Horst Wismann of Platamic Engineering, has developed a carbon dioxide laser which anneals porcelain to a metal base in seconds.

The carbon dioxide laser heats the porcelain so rapidly that the heat does not have a chance to spread to the metal, eliminating the need for the gold alloy. This means the laser can be used to seal porcelain to inexpensive plated metal bases.

Public Health

Health ministers urged to back preventive dental services

Preventive dental services received strong backing in a report considered by the federal-provincial conference of ministers of health in Ottawa last November 25. The report, prepared by a task force on costs of public health services, made these recommendations:

"That fiscal support be provided for

the fluoridation of community water supplies.

"That all regional preventive dental programs be under the direction of a dentist with graduate training in dental public health.

"That health departments initiate programs to encourage regular preventive dental care commencing at three years of age.

"That health departments employ adequate numbers of dental hygienists to carry out effective screening, educational and prophylactic programs in the school and preschool age groups.

"That prepayment dental care insurance plans be expanded and be made available to children as a first priority.

"That financial encouragement be provided for the training of dental auxiliaries to assume certain functions presently carried by dental practitioners."

The report was prepared by one of seven task forces authorized by the ministers in November 1968. Members of the task forces were chosen from universities, hospitals, professional associations and government.

Deaths

Brisebois, Jean. 68. Laval-sur-le-lac, Québec. Université de Montréal, 1926. 26-11-69. Survécuté par Marie Antoinette Gervais (épouse); Ginette (fille); Fred (beau-fils); Sylvie, Frederic, Il et Bernard (petits-enfants).

Duff, John Henry. 78. Toronto. Royal College of Dental Surgeons of Ontario, 1914. 29-12-69. Survived by Ellen M. (wife); John (son); Jane (sister); and John, Jamie and Michael (grandchildren).

Gardner, A. 73. Winnipeg. Northwestern University, 1919. 7-12-69.

Gordon, W. Bruce. 78. Courtenay, BC. North Pacific Dental College, 1915. August, 1969. Survived by Laura (wife).

Johnson, Albert Valtyr. 62. Winnipeg. University of Minnesota, 1929. 27-11-69.

Kennedy, Donald McCready. 62. Chatham, Ont. Royal College of Dental Surgeons of Ontario, 1927. 19-8-69. Survived by his wife.

Lockhart, Louis Sydney. 64. Toronto. University of Toronto, 1930. 5-1-70. Survived by Betty (wife); Herbert, Bernard Cyril and Earle Allen (sons); Jeffrey, Stephen and Fern Joy (grandchildren); and Isaac Locatch (brother).

Northrup, Donald Lloyd. 49. Sussex, NB. Dalhousie University, 1951. 3-12-69. Survived by Laura Ruth (wife); Douglas Donald and Gregory Allan (sons); Mr. and Mrs. S. W. Northrup (parents); Reid R. (brother); and Mrs. Joseph D. Frazee (sister).

Racicot, Christian. 49. Montréal. Université de Montréal, 1944. 2-12-69.



G. L. Shannon

Read, Frederick Douglas. 49. Edmonton. University of Alberta, 1952. 17-12-69. Survived by Katherine (wife); Brian Hugh and Jim (sons); Carmen (daughter); one sister and two brothers.

Awards and Appointments

Veteran Sault Ste. Marie, Ont., dentist **G. L. Shannon** was recently presented with an inscribed silver tray by the Sault Ste. Marie Dental Association in recognition of 50 years of continuous service. A scroll commemorating the occasion was also given to Dr. Shannon by the Royal College of Dental Surgeons of Ontario.

In memoriam

John Henry Duff

John H. Duff of Toronto died December 29, 1969, at the age of 78. He was born in Cookstown, Ont., and graduated from the Royal College of Dental Surgeons of Ontario in 1914.

Following World War I, when Dr. Duff served as a captain in the Canadian

Dental Corps, he established a practice in Toronto. In 1954 he joined the staff of Christie Street Hospital, Toronto, serving as chief dental officer. He helped to plan the dental clinic of Sunnybrook Hospital which he headed until his retirement in 1957. Dr. Duff was a past president of the Ontario Dental Association and a former staff member of Toronto's Faculty of Dentistry.

Besides his wife, Ellen M., Dr. Duff is survived by a son, John E.; a sister, Mrs. F. L. Thompson; and three grandchildren, John, Jamie and Michael Duff.

Louis Sydney Lockhart

L. S. Lockhart, Toronto, died January 5, 1970. He was 64.

Dr. Lockhart graduated from the University of Toronto in 1930 and practised as a dental surgeon for more than 35 years. He served as a trustee on the Toronto school board for nine years.

Dr. Lockhart is survived by his wife, Betty; three sons, Herbert, Bernard Cyril and Dr. Earle Allen; three grandchildren, Jeffrey, Stephen and Fern Joy; and one brother, Isaac Locatch.

L'Association

L'ADC prépare un mémoire sur la réforme fiscale

L'Association Dentaire Canadienne soumettra au gouvernement fédéral un mémoire exposant sa position sur le livre blanc de la réforme fiscale publié le 7 novembre dernier. Préparé par le sous-comité de la taxation du Conseil Exécutif (H. N. Beach, président, E. J. Siegel et W. J. Spence) avec l'aide du département fiscal des nouveaux conseillers juridiques de l'ADC, la firme Shibley, Righton et McCutcheon, le document sera examiné par le Conseil Exécutif, qui doit se réunir du 23 au 26 février.

L'Ontario rétablit à \$40 son octroi à l'ADC

C'est le 29 novembre que le Bureau des Gouverneurs de l'Association Dentaire de l'Ontario a rétabli à \$40 l'octroi per capita à verser à l'ADC en 1970.

Cette décision a été adoptée vers la fin d'une réunion de deux jours, à la suite d'une recommandation unanime à cet effet de la part des six délégués de l'ADO au Bureau des Gouverneurs de l'ADC, les docteurs W. J. Spence, D. C. Clee, W. C. Deacon, Ivan Hrabowsky, H. M. Jolley et E. J. Siegel.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 décembre:

Fonds d'obligations gouvernementales \$13.543;

Fonds d'obligations corporatives \$14.800;

Fonds d'actions ordinaires \$25.235.

L'avoir total (valeur marchande) du régime se montait à \$9,565,508.04.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 4,000 actions de Oshawa Wholesale Ltd A; 1,000 actions de la Banque de la Nouvelle Ecosse;

2,500 actions privilégiées (5.75 p.c.) de Western Broadcasting Co Ltd; et 3,800 actions ordinaires de Western Broadcasting Co Ltd; vente 2,500 actions privilégiées (5.75 p.c.) de Western Broadcasting Co Ltd.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.

Le Canada

Carnet de santé pour les enfants du Québec

Un carnet de santé à l'usage des enfants du Québec a été mis au point par le Conseil du Québec de l'enfance exceptionnelle et l'Association des Pédiatres du Québec. Ces deux organismes verront à ce que la formule du carnet soit adoptée le plus tôt possible dans la province.

Le carnet de santé est un bulletin qui décrit l'état de l'enfant dès sa naissance et où sont consignées subseqüemment toutes les maladies de l'enfant. Le dossier qu'il constitue permet aux spécialistes de dépister plus rapidement les troubles physiques ou émotifs qui peuvent subvenir lors de la croissance.

L'implantation du carnet, en plus de faciliter le dépistage, permettra de grandes économies de temps et d'argent puisqu'il est toujours plus simple de soigner une maladie à ses tout débuts.

L'éducation dentaire

Succès aux examens du Collège royal

Le Collège royal des Chirurgiens-Dentistes du Canada a annoncé que le Dr E. M. Hershenfield, de Montréal, a réussi aux examens de la Partie 1 (Sciences de base) qui ont eu lieu du 23 au 26 septembre dans la Section Périodontie.

Pour sa part, le Dr V. B. Griffiths, de Roxborough, a passé l'examen intéri-

maire initial les 21 et 22 novembre dans la Section Orthodontie.

L'économie

L'Association manitobaine soutient les régimes d'assurance

L'Association Dentaire du Manitoba s'est déclarée favorable au principe de l'assurance dentaire commerciale payée par anticipation.

Selon le Dr Harry Tregobov, co-président du comité de l'assurance dentaire de l'ADM, l'association mettra au point, avec les compagnies privées, un système d'assurance dentaire à primes payables d'avance. L'association du Manitoba ne vendra ni ne gérera cette assurance, mais elle est prête à assumer le rôle de conseiller afin que les compagnies privées offrent des régimes conformes à ses normes.

L'association manitobaine, au moyen d'une future corporation de services dentaires, conçoit son rôle dans ce projet en tant qu'organisme chargé de:

Réglementer la façon dont les dentistes fournissent les services;

Effectuer le contrôle de la qualité;

Aviser les compagnies d'assurance des régimes acceptables;

Agir en médiateur dans les désaccords entre patient, assureur et dentiste; et

Poursuivre la recherche afin de fournir des prestations meilleures et plus complètes.

Les ministres de la santé sont avertis que l'augmentation du coût des soins de santé doit être freinée

Un rapport, soumis à la conférence fédérale-provinciale des ministres de la santé à Ottawa le 25 novembre, déclare que le système selon lequel les services de santé sont dispensés doit être tout entier réorganisé afin de contenir l'augmentation du coût des soins sanitaires.

Le rapport, qui souligne l'inquiétude causée par "une augmentation constante et supérieure à 10 p.c. par an du coût des soins sanitaires", avait été

rédigé par un comité et sept groupes d'étude mandatés par les ministres en novembre 1968. Les membres des groupes d'étude avaient été choisis dans les universités, les hôpitaux, les associations professionnelles et le gouvernement.

Des députés ontariens demandent la couverture des soins dentaires

Un comité multi-parti du parlement provincial a réclamé que le régime d'assurance-maladie de l'Ontario soit élargi pour couvrir les médicaments d'ordonnance et les soins dentaires.

Les 21 députés, membres du Comité permanent de la santé, ont formulé cette demande surprise le 28 novembre dans un rapport au parlement. Son président, R. T. Potter, a reconnu que le comité n'était pas autorisé à faire rapport sur ce sujet, mais que, a-t-il déclaré, vu l'importance du problème, le comité ne pouvait cependant pas le négliger.

La fluoration

La fluoration diminue le coût des traitements correctifs

Un responsable de l'hygiène publique de l'état de New York a déclaré que la fluoration réduit de moitié le coût des traitements dentaires correctifs chez les enfants qui bénéficient de cette mesure dès la naissance.

Lé Dr D. B. Ast, d'Albany, New York, a comparé les résultats d'une étude qui a duré six ans portant sur les soins dentaires ordinaires dispensés aux enfants de la ville de Newburgh dont l'eau est fluorée et ceux de la ville non-fluorée de Kingston, dans l'état de New York.

"Les soins correctifs chez les enfants qui ont consommé l'eau fluorée toute leur vie coûtent moins de la moitié de ce qu'ils coûtent dans un endroit non-fluoré et les soins supplémentaires ne sont environ que la moitié".

Le Dr Ast a remarqué que 157 enfants de Newburgh sur 387 étaient complètement exempts de carie contre 63 enfants seulement sur 379 de la ville de Kingston.

"En ce qui concerne la progression de la maladie, lors de l'examen initial et lors de chaque année supplémentaire les enfants de Kingston ont eu besoin de plus de restaurations que ceux de Newburgh. Cela se retrouve dans le coût des soins correctifs et les heures de traitement, où le coût est plus du double à Kingston et les heures de traitement plus d'une fois et demie celles de Newburgh," a-t-il expliqué.

Le Dr Ast a déclaré qu'une étude semblable effectuée en Nouvelle-Zélande confirmait ces observations.

Distinction honorifique

Dans le cadre des fêtes du 50e anniversaire, la Société Dentaire de Montréal, en guise de reconnaissance et d'appréciation des services rendus, a nommé membres honoraires à vie quelques anciens présidents: les docteurs **J.-Ph. Lantier**, président-fondateur 1925-27, **Jacques Demers** 1946-47, **Roland Gendron** 1955-56 et **Vincent Tremblay** 1956-57.

Le cancer — De toutes les provinces canadiennes, c'est le Québec qui a le plus haut taux de mortalité due au cancer. Chaque année, dans la province, il y a environ 12,000 nouveaux cas. D'ici 1975, on peut présumer qu'il y aura chaque année environ 20,000 nouveaux cas. Quand un individu apprend qu'il est cancéreux il se considère comme condamné à mort dans un délai relativement court, ce qui n'est pas toujours vrai et ce que les statistiques que nous détenons ne nous permettent pas, en ce moment-ci, de déterminer.

Si cette maladie frappe un être cher, on s'émeut, on pleure même et, après le décès, on s'efforce d'oublier ces mauvais souvenirs, pour éviter de penser: "Et si je devenais cancéreux?" Pour oublier aussi que d'autres humains souffrent les mêmes affres.

Le cancer, pour la société, possède au moins un aspect rassurant: il n'est pas contagieux. Quand la tuberculose exerça ses ravages, dans notre population il y a une quarantaine d'années, l'opinion publique réagit fortement dès qu'elle fut quelque peu instruite des

conséquences de la maladie, non seulement en ce qui concerne le patient lui-même mais les membres de son entourage. On a même traité le tuberculeux en lépreux.

Ceux qui ont vécu cette période nous répètent qu'en dépit de ce danger de contamination, il a fallu une dizaine d'années aux autorités gouvernementales pour qu'elles prennent action et créent des sanatoriums. Combien de temps mettra-t-on à planifier le dépistage, le diagnostic et le traitement des cancéreux? — Claire Dutrisac.

Physical and emotional demands pose problem for dentists

Muscular tension and fatigue are becoming serious by-products of the physical and emotional strain of dental practice, according to G. J. Tarasoff, San Francisco, an authority on practice administration.

The principal causes, says Dr. Tarasoff, are the confined work space of most modern practices and the dentist's restricted oral workfield (Fig 1). He also ascribes tension and fatigue to the constant pressure of decision-making, and counselling and assuaging patients.

In view of the burgeoning patient load and the acceleration of comprehensive prepaid health care programs, the dentist's problem is likely to get worse before it gets any better. Dr. Tarasoff thinks the result could well be reduced efficiency and a shorter period of individual productivity at a time when the profession should prepare to meet greater demands for its services.

Sedentary profession

Dr. Tarasoff points out that circulatory, respiratory, neuro-muscular and orthopaedic disorders are now the major causes of death, disability and early retirement among dentists. Dentistry is a highly sedentary profession in a highly quiescent society. The result: dentists run an above-average risk of falling victims to diseases that are associated with inadequate physical exercise. Athletic activity helps to counteract some of the physically limiting and emotionally challenging demands of dental practice, he maintains.

Mental benefits

Daily confrontation with emotional tension exposes dentists to what psychologists call the "fight or flight" situation. "We cannot fight or run away as cave-men did, because we don't do that sort of thing in our society. We stay there and hold it back, and the tensions build up because we have no way of releasing them," says Dr. Tarasoff.¹

He believes that exercise is the best way to get rid of tension. "People constantly rubbing elbows with their neighbours need social lubricants, and sport is one such lubricant," he explains,² adding that consistent participation in athletic activity improves the functional efficiency of the nervous system and benefits the entire body. This general improvement is reflected by

increased mental alertness and a zest for meeting and solving problems that arise in the course of daily life.

Physical benefits

Dr. Tarasoff says regular physical exercise provides these additional benefits: it aids in preventing obesity and thereby helps to delay associated degenerative diseases and increases the life span; it helps to counteract conditions that lead to coronary heart disease; and it helps to prevent premature ageing and improves individual capacity for meeting emergencies.

Selecting an exercise program

The selection of a proper program of physical activity should be governed by the individual's general health, age, body type, weight and personal preferences. Dr. Tarasoff recommends the following guidelines for this purpose:

A regular and gradually diminishing program of physical exercise should be instituted and maintained after graduation from school.

Persons of normal weight who have never had a serious illness and have always been active can safely undertake any form of exercise up to age 30.

People who actively participate in a sport two or three times a week may continue to do so in their thirties and even in their forties.

Persons over 40 who only engage in occasional mild exercise should not undertake a more vigorous program without a thorough physical examination.

Body type and weight

Physical activity, according to Dr. Tarasoff, should be related to the individual's body type and weight. Certain body types are more suited to a particular athletic activity than others. The effects of such activity are partly dependent upon the subject's physical frame. Slender (leptosomatic) people tend to gain lean tissue through muscle hypertrophy, whereas stocky (pyknic) subjects usually experience a more dramatic and rapid loss of weight (Fig 2). An overabundant diet can, however, negate the changes induced by physical exercise.

Dr. Tarasoff believes that the benefits accruing from somatic body changes enlarge the range of activities

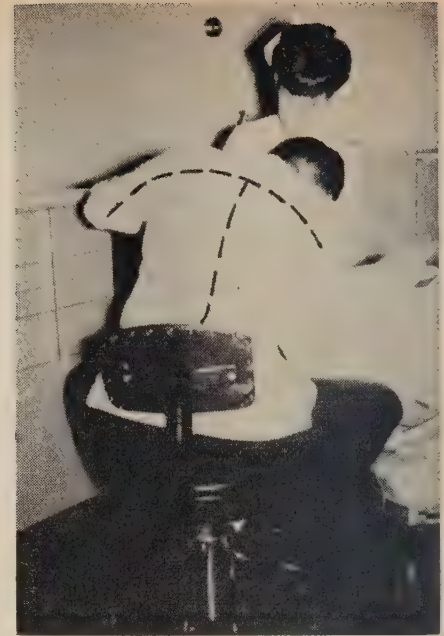


Fig 1 Common postural attitudes of the standing and seated dentist induce fatigue. Note abduction of the scapulae, the intensified spinal curvature, the rounded back, depression of the head and neck, and unilateral impaired flexure of much of the musculature. This attitude is detrimental to respiratory and circulatory functions and encourages pooling of blood in the lower extremities.



one can pursue and improve one's body image. Both in turn stimulate further interest in physical activity.

Popular misconceptions

He takes sharp issue with some cherished notions about exercise, diet and body weight. One of these is the assumption that exercise-stimulated appetite causes a gain in weight. Dr. Tarasoff cites evidence from human and animal experiments which shows that moderate exercise may curb appetite, whereas sedentary living actually increases the demand for food.

According to another widely-held belief it is futile to indulge in exercise for weight control because caloric expenditure tables show that one would have to do seven hours of mountain climbing on an empty stomach to consume one pound of body fat. But Dr. Tarasoff points out that caloric expenditure tables are based on the work phase alone. The caloric requirement during recovery from work can actually equal or even exceed the caloric cost of work. If this is not compensated by increased dietary intake, we continue to utilize fat in routine muscular activity during the post-exercise period.



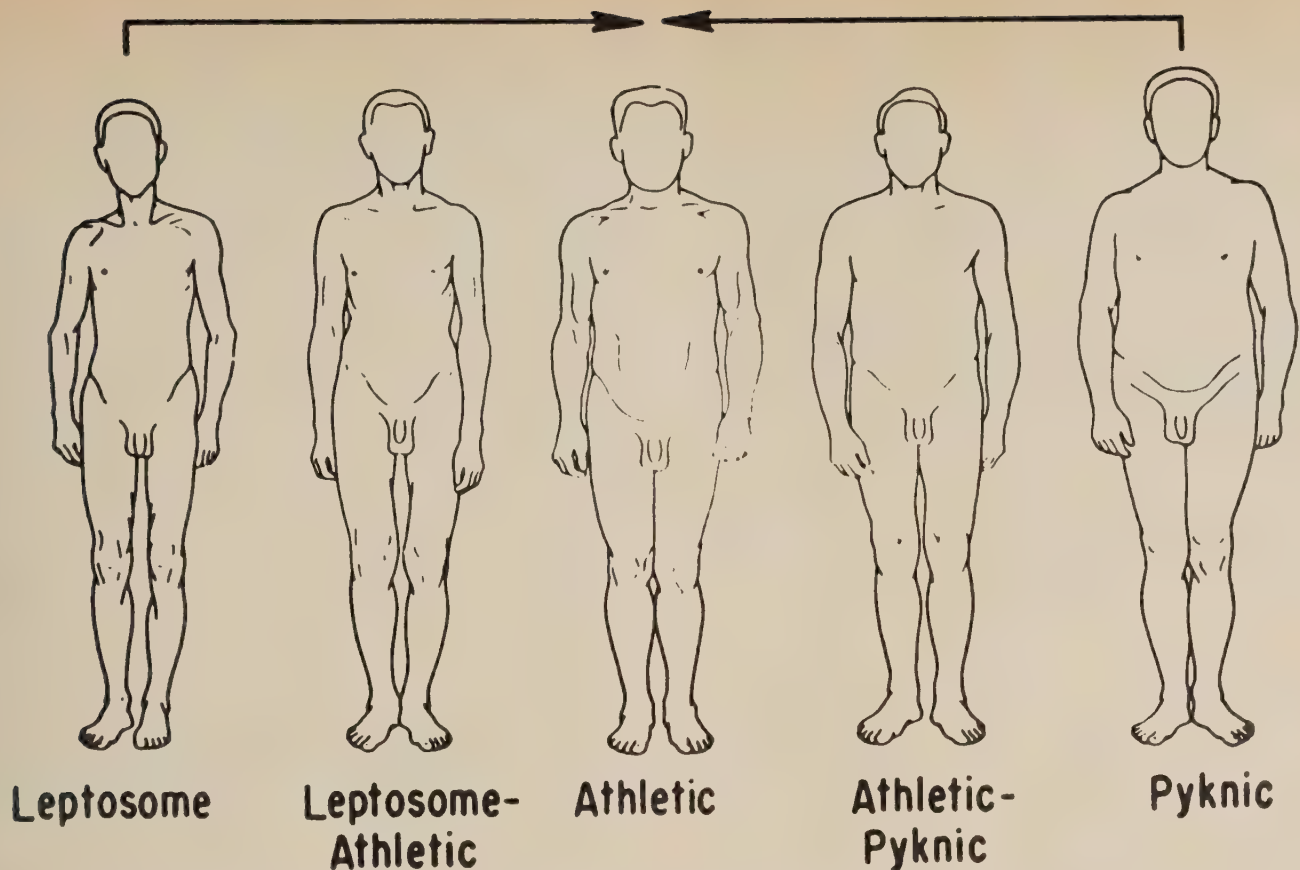


Fig 2 The three basic body frames are the pyknic (round, compact), athletic and leptosomatic (asthenic) frames. (After: Jokl, E. Nutrition, exercise and body composition. Springfield, Ill., Charles C. Thomas, 1964)

An increased food intake is not the sole cause of simple obesity, according to Dr. Tarasoff. Physical inactivity is equally important as a determinant of "creeping" overweight.

He also refutes a popular notion which holds that carbohydrate is man's primary energy fuel. Though carbohydrate is a source of muscle energy for short bursts of activity, it provides only a fraction of the energy utilized in sustained muscular work. Most dietary carbohydrate is immediately converted to fat in the adipose tissues. During muscular exercise, the fat is mobilized as non-esterified fatty acids which are carried to the working muscles. Thus fat, rather than carbohydrate, seems to be the "prime fuel" of muscle.

Finally, Dr. Tarasoff points out that cholesterol is one of the first blood lipids mobilized upon the initia-

tion of exercise. "Blood cholesterol levels are most effectively reduced when exercise is combined with a restricted intake of saturated fats."

Doctor Tarasoff is director of the dental auxiliary utilization program at the School of Dentistry, University of California, San Francisco Medical Centre, San Francisco, Calif. 94112

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Geriatrics: an emerging challenge for the health professions

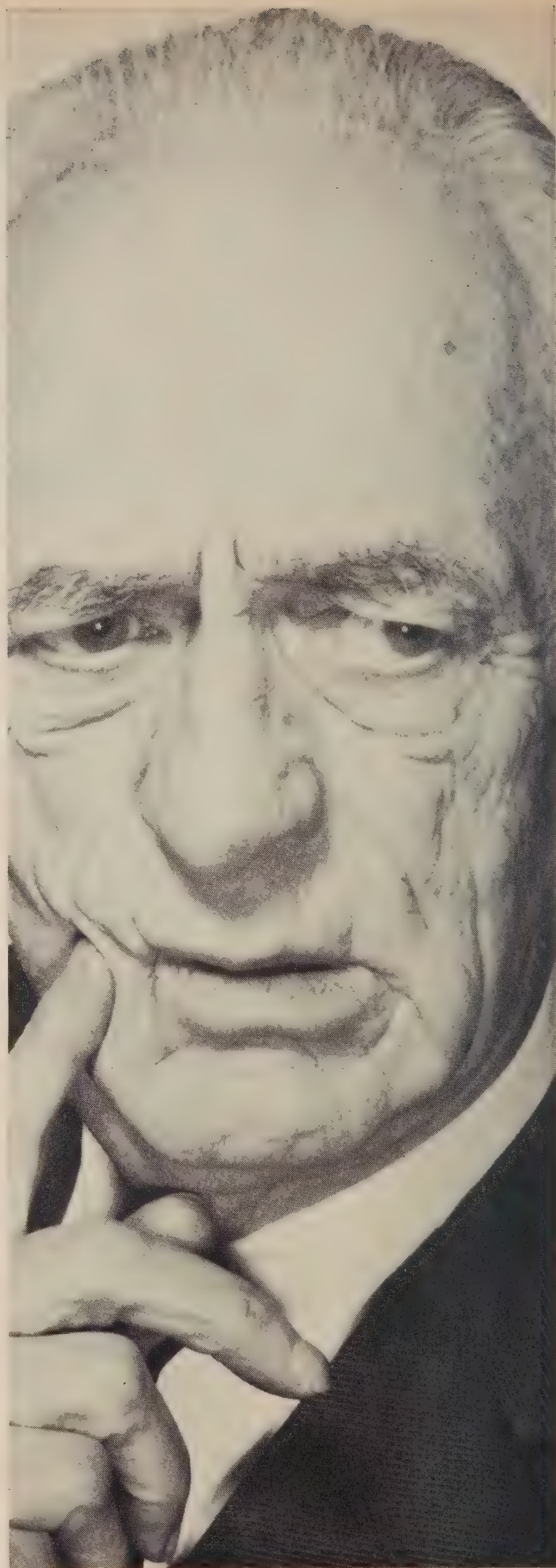
E. D. Sherman, MD, FACP
Montreal

"Not yet can I speak with the authority of the "retired" from labour, a shadowy company who spend their time in regretting their retirement and in criticising their successors. I am still at work with my hand to the plough, and my face to the future. The shadows of evening, it is true, lengthen about me, but morning is in my heart!"

Sir William Mulock, 1930

Old age and man's perpetual quest for youth have captivated the attention of physicians, priests, poets and philosophers from earliest times. To focus attention on the subject, Nascher¹ in 1909 coined the word "Geriatrics," derived from the Greek, geron, old man, and iatrikos, medical treatment. It denotes a special branch of medicine devoted to the diagnosis and treatment of disease in the aged. Although this word is approaching respectable middle age, it has only come into general use within the past decade. Disorders in older people constitute an essential part of general medicine. This has led to the adoption of another new term, "gerontology." This refers to the science of ageing in the broadest sense and involves all the biological, physical and social sciences. Geriatrics is part of the broader field of gerontology.

Gerontology is primarily concerned with changes occurring between maturity and death of the individual and factors that influence such changes. These range from hereditary to climatic differences and include the effects of social customs and usage. Gerontology is concerned not only with alterations of individual structure and function, but also with the effect of one upon the other, and the reaction of the individual to his environment. In Canada, as elsewhere, the growing number and proportion of older persons is creating new and complex problems. Bernard Baruch characterizes the increase in older citizens as one of the most momentous developments of modern times. The health and general welfare of these people along with their integration into the stream of national life presents a major challenge.



In 1900 the average North American could expect to live about 50 years. By 1960 the life span increased to nearly 70 in the United States and Canada. In 1961 the number of Canadians 65 and over was estimated at 1,435,000 — more than triple the number in 1921. They comprised 7.8 per cent of the nation's population, compared to only 4.8 per cent in 1921. By 1971 there will likely be 1,845,000 Canadians 65 and over.

The dramatic increase in longevity in the western world is due to a combination of factors including new drugs, improved hygiene, and improved control of childhood infections, tuberculosis, respiratory diseases and numerous other illnesses. Continuing advances in medical, hygienic and dietary knowledge indicate that the life span will increase beyond the three-score-and-ten.

Life has depth and breadth as well as length. Consequently, geriatric medicine aims to improve the quality of life, not merely increase longevity, in the declining years. These goals are attainable through greater health during maturity, the prevention and retardation of progressive disabling disorders of senescence, and continued cultivation of the mind through better adult education.

The problems²⁻⁵ that stem from an ageing population are by no means limited to the biological sciences and clinical medicine—social, economic and environmental aspects have equal importance. Indeed, the older citizen may have more social and economic difficulties than medical problems.

Anticipating old age with assurance calls for good health, financial security, social adjustment and a receptive environment. The all-important goal is the preservation of usefulness for as long as possible; an awareness of uselessness is the real tragedy of old age. All of us have a responsibility in achieving this end.

Though none of the current theories of ageing⁶⁻¹⁵ fully explain all of the phenomena associated with ageing and death, we do have some important clues.

Although some functions do not change with age, there is generally a gradual decrement beginning at age 25 and 30 and extending to death. The rate of decrease varies widely with different functions, being usually greater for complex performances or responses to stresses and displacing stimuli. Thus the maximum excretory capacity of the kidney falls by 50 per cent between the ages of 30 and 90, whereas the speed of conduction of a nerve impulse diminishes by only 15 per cent over the same age span.

Shock¹⁶⁻¹⁸ has shown that ageing is associated with a reduction in reserve capacities. This increases the probability that environmental demands may strain the individual's capacity and result in death. Diminished performance of organs or organ systems is also associated with progressive loss of cells or function units. This phenomenon is well illustrated in the kidney where there is a loss of nephrons as well as muscle and nerve fibres with advancing age.

But why do the cells die? A cell population at any time represents a balance between the rate of formation of new cells and the rate of loss. All organ systems do not age at the same rate. Some cells such as those of the skin, the lining of the gastro-intestinal tract, and liver retain their capacity to divide even in late adult life and senescence, but the rate of division may diminish with age. Cellular ageing in these tissues may be considerably slower than that of the entire

animal so that few age differences in cellular metabolism can be detected. On the other hand, brain, muscle and kidney cells do not undergo division with advancing age. In these cells we can therefore observe changes in cellular metabolism which precedes death. Losses or changes in such fixed cells cannot be restored or replaced.

Some cells undoubtedly die from anoxia or starvation due to impairment of the blood supply and deprivation of oxygen and nutrients. Ageing and death may also be due to intracellular factors. At least three mechanisms¹⁸ have been postulated: (1) exhaustion of some essential material; (2) eversion, that is the accumulation of alterations in macromolecules concerned with cellular structure or function; and (3) the error mechanism. The latter assumes that the DNA (desoxynucleic acid) molecule contains the information required to form the many complex materials that are essential for life. As cells age, the DNA molecule becomes altered thereby interfering with the production of materials indispensable to the functioning of the cells.

Chronic illness

Though chronic illnesses are more frequent and severe in older people, there are few diseases which may not occur at any age. The acute communicable diseases of childhood are not unusual late in life. After maturity, however, infectious disorders become less frequent and degenerative disorders take precedence. These are chronic, slowly progressive disorders. They constitute the gravest menace to continued health and usefulness of those reaching maturity. Today, over 60 per cent of the deaths in Canada and the United States are attributable to chronic disease. The frequency of the degenerative disorders is increasing because more people survive through youth to fall into the vulnerable period after 40.

According to the Canadian Sickness Survey, there were 684,000 year-long illnesses in 1950-51. They represent a year-long illness for every 20 persons in the country. The age group 65 and over, representing only 7.8 per cent of the population, had nearly 25 per cent of all these disorders.

Four major disorders are significant in geriatric medicine: (1) circulatory impairments, (2) metabolic dysfunctions like diabetes and gout, (3) arthritis, and (4) neoplasms.

The 10 principal causes of disability in persons 65 and over are heart disease, arthritis, hypertensive vascular disease, nephritis, tuberculosis, disease of bones and joints (except tuberculosis and arthritis), accidents, diabetes, cancer and eye disease. Five of these are also leading causes of death in people 65: heart disease, cerebral haemorrhage and other vascular lesions affecting the central nervous system, cancer, general arteriosclerosis and accidents.

Psychological and psychiatric aspects of ageing

Intelligence, as measured by the Bellevue Scale, declines very slowly in later years. Certain qualitative

changes compensate for the quantitative depreciation. Moreover, such factors as motivation, interest, practice or disease alter and distort the quantitative values on those in later maturity.¹⁹ The result is that general intelligence, having reached its peak, stays at this level, especially if people continue to be active and suffer no physical and neurological deterioration. Since education is an intellectual stimulus, continued learning throughout life presumably exerts a similar effect. Indeed, a high level of intelligence, a good education and continuous practice in exercising one's learning capacity delay the onset of any loss of ability to learn.

Memory for past events is often less impaired than retention and recall of recent experience. Failure in immediate recall, perhaps associated with inability to register what is new, characterizes memory failure in old age. Healthy older people, however, show much less deficit in short term memory than do those who are in poor health.

Ageing, moreover, is asymmetrical. As certain physical attributes decline, others become stronger. Memory may decline, but judgement in the appraisal of significance improves with age. Visual acuity obviously diminishes, but the ability to comprehend that which is seen improves with experience. Experience is dependent on time and therefore inevitably grows with age.

The older individual is under a load of accumulated past experiences. Some of these are no longer useful. He experiences some decrement of function. Changes in his appearance advertise his advancing age. He must face up to new circumstances such as retirement, reduced income, bereavement, loss of status and recognition and an overabundance of leisure. Successful ageing depends upon one's ability to cope with internal physiological changes as well as with external social changes and the capacity to achieve a harmony of the two.²⁰

Older people exhibit increasing concern with bodily symptoms and diminished interest in physical activities. They are more withdrawn and less emotionally responsive. As a person ages, his individual characteristics are intensified. Dependencies and inadequacies, camouflaged in earlier years by supporting social factors, emerge when later years take away job, spouse, friends and a tolerant milieu. Rigidity in thinking develops when the ageing person relies too heavily on old habits of response and rejects new ideas that seem to imply that long-held notions were wrong. Anxiety, too, accompanies psychological ageing. Some people are apprehensive about their jobs, their social position or diminished sexual attractiveness. Others who are excessively dependent fear pain, mutilation and death. Many tend to regress to earlier stages of emotional development. Geriatric patients, like those of any other age group, should be treated at the level of their personality function.

Care of elderly patients is more than just their medical supervision; it includes suggestions on how to improve the quality of living and of the environment. Activity enhances the quality of living. To be truly therapeutic, activity must be purposeful; the more it absorbs the energies and the more deeply it stirs the emotional life of the patient, the more beneficial it will be. All patients, regardless of the nature of their illnesses, respond favourably to participatory activities. A sheltered workshop, for example,

provides through work the only contact they have with the real world because it involves working with a well-known product. Activity promotes interaction between patients; isolation is thereby significantly reduced and satisfying groups are formed. A further benefit is that drug and treatment needs decrease when psychological and social requirements are satisfied.

The preventive implications of such therapy are self-evident. The goals were aptly defined by Gitelson:²¹ "To die with one's boots on is the keynote of mental health in old age. Never to know that one is through, never to feel superfluous, never to lack significance, never to be without use, never to be without an outlet for creative urge, never to be without a word in the affairs of man." These goals, reflecting the wellsprings of human dignity, must be achieved in a more restricted life-space than that of younger persons.

Often, the physician is the only person to whom the lonely patient turns for aid in his struggle against illness and old age. An elderly person is apt to cast him in the parent role in his search for security and reassurance. Understanding the nature and depth of his patient's needs as well as his own capacity for satisfying them makes the physician more patient and compassionate in treating the whole person.

Emotional strain accentuates the difficulties of those who are more or less disabled. In contrast, older people who maintain their interests even in the presence of physical limitations are likely to live longer, more happily and more productively.

Retirement

As the human life increases, it opens up new potentials heretofore undreamed of. When 65 was selected as an arbitrary retirement age, the average retirement expectation was approximately five years. Modern medicine has extended the life span by another five to 10 years. The further possibility of lowering the retirement age to 60 or 55 indicates that even more time may be spent in retirement.

Since work plays such an important part in life, retirement often has a devastating effect on those who are unprepared for it. The elderly should therefore participate in the creative, social, economic and political life of the community, in keeping with their capacities, for as long as possible.

Partial and gradual retirement from work and the cultivation of hobbies and other interests are sound psychiatric principles. Older people have much to contribute to our civilization; their ideas and cultural development deserve greater recognition. A more constructive attitude toward the ageing will emerge when we learn to appreciate what they can really do.

Factors that bear on retirement include compulsory retirement, pensions and income maintenance. Pre-retirement programs can aid workers to relinquish work relatively free from anxiety. They reduce the fear of retirement, enhance positive attitudes toward retirement, encourage constructive planning for this event and promote desirable behavior in retirement preparation.²² Pre-retirement guidance is most effective in relation to financial planning, health and nutrition, and retirement living. Retirement should offer an

activity routine, opportunity for personal contacts, status derived from performance of a culturally defined role, perhaps opportunities to serve others, as well as intrinsic satisfaction in the activity itself.²³

Self-employed professionals usually do not retire; therefore retirement planning does not have the same urgency for dentists and physicians. As a rule, their interests are so varied and their work so interesting that they develop a maturity and judgement that makes their service to patients more valuable with time.

Retirement should furnish larger opportunities for the enjoyment of life. The fight against growing old is not so much a matter of duration as it is for preservation of the capacity for happiness and interesting living.

Retirement from a job need not bring about retirement from society. Skills and experience acquired over the years may be profitably directed to various perplexing problems of community life.

Adequate financial planning is the key element in preparation for retirement; without it, hardship is inevitable.

Retirement means different things to different people.²⁴ Trouble must ensue when it is approached with apprehension as a final time of uselessness and dependency on others. A barren and unproductive period between regular employment and death must at all cost be avoided. Retirement should be a time for taking up new and useful duties which are adapted to the older person's capabilities and which do not demand his participation beyond voluntary limits. The man himself must develop his interests and resources over the years against the day when he is free to leave his regular job. At all ages, men seek for self-realization and have the desire to carry on. Although physical activity slows moderately, mental processes may carry on at a higher level of performance into the upper advanced years.

The factors that limit longevity are a man's inherent genetic make-up, disease (principally cardiovascular and respiratory disease and cancer), obesity and the gradual changes in organs and tissues which reduce their reserve capacity.²⁵ These changes do not proceed uniformly in all organ systems. Many can be compensated by devices such as eye glasses, hearing aids and dentures. Some can be retarded by systematic exercise and physical activity. We can learn to live with others simply by avoiding the strain of excesses.

Nutrition and ageing

Life-diminishing obesity is associated with an increase in cardiovascular disease. McCay²⁶ has shown that diet can retard ageing and that certain diets actually lengthen the life line of rats. He increased their life span by feeding them a diet containing all essential substances for normal growth but low in calories. This diet retarded the development of inflammatory, neoplastic and degenerative diseases common to this species in old age. When exercised, the rats were even healthier. This has obvious implications for man. By consuming only the amount of food required, maintaining an active muscular tone and carrying out a well balanced active program every day, the average person increases his chances of

living longer. Most people who attain a ripe old age have a low, rather than a high, body weight.

The foregoing is even more crucial in view of the significance ascribed to fat intake in the genesis of arteriosclerosis and coronary artery disease. A reduced fat intake or a shift from the consumption of animal (saturated) fat to vegetable oils (unsaturated fats) limits the deposition of cholesterol in the arterial walls. Among Eastern peoples often less than 10 per cent of the diet is in fat, and Snapper²⁷ has emphasized the rarity of arteriosclerosis in North China.

Decreased muscular activity in old age results in diminished basal oxygen consumption and energy expenditure. The total caloric requirement of old people is therefore less. Consequently, caloric intake may be reduced by as much as 30 per cent from the age 25 to old age.

Though they need less calories, the aged require the same ingredients in the same proportions as the young. They must be furnished adequate calories from the proper percentages of protein, fat and carbohydrate as well as sufficient minerals and vitamins.

Physical exercise and maintenance of general fitness

Physical activity contributes to the maintenance of health and the prevention of disease by enhancing the functional and reserve capacities of the cardiovascular and respiratory systems and strengthening adaptability to the stress of modern living. Recent physical activity is more important than activity earlier in life; even lighter or moderate physical activity can be significant for cardiovascular health.²⁸

Lifetime application of health measures

The basic measures of health maintenance and disease prevention carry with them the promise of generally improved health, a sense of well-being and the avoidance of certain disorders which could be fatal. However, these measures will not reverse any degenerative changes that have already occurred. The requisite steps must therefore be adopted in youth. To appraise basic health maintenance measures in relation to the diseases of old age, one should consider not just the effects of last minute applications, but the sum total of influences which a lifetime application of such measures may have on the human organism.²⁹

Summary

In the past two decades ageing has been accepted as a human experience and geriatrics has become a major challenge for the health professions.

The problems of ageing are not confined to the biological sciences and clinical medicine; social, economic and environmental aspects are equally important. A total approach to this many-faceted topic is obligatory to attain the perspective of "the whole person."

Ageing is associated with reduced reserve capacity due to cellular loss in the organ tissues.

The frequency and severity of chronic illness are more pronounced in older people.

General intelligence, having reached its peak, is maintained in old age, especially if one continues to be active and exercises the capacity to learn throughout life. Education must become a life-long discipline.

Emotional strain accentuates the difficulties of those who are healthy as well as those who are disabled. Yet, older people who maintain their interests even in the presence of physical limitations can anticipate a longer, happier and more productive life.

Partial and gradual retirement from work with the cultivation of hobbies and other interests are sound psychiatric principles. For the employed, pre-retirement programs are beneficial. Retirement should furnish larger opportunities for the enjoyment of life and those interests which are significant for the individual. It should be a time for taking up new and useful duties adapted to one's capabilities.

Basic measures for health maintenance beginning in youth should include proper nutrition, prevention of obesity, systematic exercise and physical activity, and avoidance of the strain of excesses.

Doctor Sherman, whose address is 4330 Hampton Ave., Montreal, is director of research at the Rehabilitation Institute of Montreal and chairman of the Committee on Ageing of the Quebec Medical Association. His paper is based on an address delivered at the 1969 CDA national convention in Montreal.

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Coverage — Britain's health service is much older than any of the Canadian models, but it is not out of the woods yet. Still the British struggle to eliminate abuses, or to draw a discernible line between health and cosmetics. Most of us know better than to challenge the argument that a woman's appearance is of vital importance to her general sense of well-being, but in Britain the same theme has been taken up by

men. Bald men have been getting free wigs at public expense through the National Health Service and, according to the *British Medical Journal*, this is costing the taxpayer about \$2.6 million a year. It does seem to be asking a lot of the British taxpayer to require him to accept wigs as a necessary overhead expense. As he runs his fingers through his thinning wallet, he may well conclude that economy cuts should start at the top. — *Globe and Mail*, Toronto.

Auxiliaries and the team concept in dental manpower

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The economic power of a growing and increasingly affluent population may drive demands for dental care beyond the dental profession's capacity to satisfy this demand. One solution, says Dr. Geldart, lies in the organization of dental health teams using auxiliaries with expanded duties. Dentists must give the lead in welding such auxiliaries into an effective team. The dentist must provide adequate supervision and retain ultimate responsibility for the treatment.

L'accroissement de la population et de son aisance financière risque de pousser la demande de soins dentaires au-delà du niveau que la profession dentaire peut satisfaire. Comme solution, le Dr Geldart propose d'organiser des équipes d'hygiène dentaire employant des auxiliaires aux tâches élargies. C'est au dentiste qu'il revient d'intégrer ces auxiliaires au sein d'équipes efficaces. Le dentiste se doit d'assurer une surveillance adéquate et de conserver la responsabilité finale du traitement.

Is it already too late? Can the profession still mobilize sufficient service potential to satisfy the public's growing demand for dental care? Spurred by our increasing affluence and a steady population growth, that demand could outdistance the profession's capacity unless steps are taken now to avert a serious manpower shortage.

Teams incorporating dental auxiliaries with expanded duties offer one possible solution to this dilemma.

Such an approach has been adopted in several other countries and should also be tried in Canada before it is too late.

This article relates the need and potential demand for dental services to our ability to meet this demand. It analyses Britain's and New Zealand's solutions to the shortage of dental personnel in these two countries. Also described are one Canadian and three American experiments on expanded duties for auxiliary personnel.

Needs and demand for dental care

We have no direct information about the demand for dental care in Canada. However, American data on dental care needs offer a clue. For example, the 1966 United States National Health Survey¹ showed that no less than 86.9 per cent of American children under five had never consulted or been examined by a dentist. In the age group 5-15, 25 per cent had never seen a dentist.

Canada, it seems, is even in a worse predicament. The Hall Royal Commission² concluded in 1964 that "... the shortage of dentists ... is so acute that, however desirable and necessary it may be, it is impossible to think at the present time in terms of a program of dental services for the entire population."

In December 1968 Parliament passed the Medical Care Act. Though this piece of legislation is confined to physicians' services, it authorizes federal contributions for provincial medical insurance plans that fulfil certain criteria embodied in the act. In addition, it allows the provinces to add further benefits, such as dental care, through appropriate provincial legislation. If this option were exercised throughout the nation, the

Population per dentist under 65 and number of dentists per 10,000 population, by province, August 1966 Table 1

Province	Population per dentist	Population per dentist under 65	Dentists per 10,000 population	Dentists under 65 per 10,000 population
Newfoundland	12,335	12,335	0.8	0.8
Prince Edward Island	3,501	4,522	2.9	2.2
Nova Scotia	3,761	4,447	2.7	2.2
New Brunswick	4,781	5,931	2.1	1.7
Quebec	3,836	4,376	2.6	2.3
Ontario	2,504	2,895	4.0	3.5
Manitoba	3,077	3,541	3.3	2.8
Saskatchewan	4,549	5,164	2.2	1.9
Alberta	2,903	3,195	3.4	3.1
British Columbia	2,421	2,628	4.1	3.8
Northwest Territories	7,184	9,579	1.4	1.0
Yukon	14,382	14,382	0.7	0.7
Canada	3,082	3,514	3.2	2.8

Number of dental hygienists, ratio to licensed dentists and population per hygienist, January 1968. Number of dental assistants and dental technicians employed in 1967

Table 2

Province	Hygienists	Hygienist -dentist ratio	Population per hygienist	Dental assistants	Dental technicians employed	
					By dental laboratories	By dentists
Newfoundland	0	0/51	—	40	10	15
Prince Edward Is.	2	1/15	54,500	20		0
Nova Scotia	31	1/8	24,419	130	56	5
New Brunswick	3	1/45	206,667	90	21	0
Quebec	8	1/198	733,500	990	247	90
Ontario	197	1/14	36,289	2,400	656	65
Manitoba	24	1/12	40,125	250	90	3
Saskatchewan	14	1/16	68,429	240	60	2
Alberta	60	1/9	24,833	540	151	10
British Columbia	37	1/22	52,622	800	189	10
Canada	376	1/18	54,269	5,500	1,480	200

resultant demand could impose a very severe strain on the dental profession.

To appraise treatment needs, one must also consider the attitudes of patients and the degree to which dental care will be sought or accepted.³ Economic and educational influences shape the public's attitude toward dental care. And, thanks to the dental profession, the labour unions and public health officials, more money has become available for meeting the costs of health care needs in the United States, thereby making dental care available to more people.⁴ A similar development has occurred in Canada, though to a lesser degree.

Since the Second World War there has been a noticeable improvement in the educational and economic status of most Canadians and there is every indication that this trend will continue. In the result, public and governmental attitudes and actions will increase the demand for dental services.

Dental manpower

Tables 1 and 2 illustrate Canada's resources of dentists and auxiliary personnel.^{5, 6} The current output from our dental schools does not match population growth, and the dentist-population ratio will therefore deteriorate. In contrast, the United States has approximately one dentist for every 2,000 of its citizens. Despite this advantage, only one-third of the American population receives anything approaching systematic dental care.⁷

Offsetting this rather dismal perspective is the growing popularity of the more productive multiple-chair practices. There remains, however, an obvious need to encourage better use of auxiliary personnel. Graduates as well as undergraduates will require further instruction to this end.

To augment auxiliary services the American Survey of Dentistry⁸ recommended that:

1. Dentists utilize a greater number of well trained dental assistants.
2. The number of schools for dental assistants be increased.
3. The dental profession conduct studies designed to develop and expand the duties of auxiliary personnel.

The broadening of services should begin with the dental hygienists because there is already an approved program of education and licensure for this group.

4. As soon as the dental profession standardizes the educational programs for dental laboratory technicians and for dental assistants, consideration should be given to expanding the duties of these auxiliary groups. In the public interest, the education of auxiliary personnel should be carried out under the guidance of the dental profession, and the services performed by all auxiliary personnel should be under the supervision of licensed dentists.

Recent developments in Canada and the United States

Dental services have claimed progressively greater attention since 1964 when the Hall Royal Commission² published the results of the first nation-wide study of health needs ever undertaken in Canada. The Commission analysed existing facilities and the future need for health services for the people of Canada. It projected the resources required to provide such services and recommended appropriate measures to this effect.

The Commission said that "the provision of an increased volume of dental service, especially for children . . . in part, lies in the training of individuals who can work under the direction of a dentist." It went on to say that ". . . final responsibility and authority for all forms of treatment undertaken by the auxiliary must remain with the dentist."

The Canadian Dental Association responded by asking that an independent investigating committee be established to study all aspects of auxiliary dental services. This proposal led to the appointment June 13, 1968, of an Ad Hoc Committee on Dental Auxiliaries headed by Chief Justice Dalton C. Wells.⁹

In a subsequent brief¹⁰ the Canadian Dental Association urged the Wells Committee to "proceed immediately to design, conduct and evaluate pilot studies, cost-benefit analyses and operational research programs with the aim of determining optimum combinations of auxiliary personnel and dentists for both private practice and public service in rural and remote areas as well as in more populous places." The CDA also suggested studies to determine:

1. What expanded duties auxiliaries can be trained to perform in relation to the time and cost necessary to train them.

2. The effect of auxiliaries on the productivity and quality of service provided by the dental team.

3. The feasibility of integrating auxiliaries with expanded duties into the private dental office and public service, considering the need to provide additional equipment, office space and administrative services for them.

The CDA said that it could not make recommendations about auxiliary services until studies on the extension of duties have been completed.

The Wells Committee also received a brief from the Canadian Dental Hygienists Association.¹¹ This group contended "... that the present auxiliaries, the dental hygienist and the dental assistant, given broader duties combined with adequate numbers and their proper utilization, can best solve the existing dilemma." The CDHA brief contained the following observation about expanded duties:

"With regard to the hygienist, we feel that the very nature of her educational background makes her the logical candidate for the expansion of clinical duties. Such duties would be in the area of restorative dentistry, prosthetic dentistry, orthodontic dentistry, and any other area as would seem necessary. In our opinion, a diversity of function within a single auxiliary is preferable to a multiplicity of auxiliaries with narrowly restrictive functions. By allowing the hygienist to expand her clinical duties to a wider range, we will create an auxiliary that will best be able to adapt to future changes."

Actually, the Canadian Dental Association adopted its initial policy statement on auxiliaries¹² in 1958. It suggested that the development of auxiliary personnel be integrated under the supervision or direction of a fully qualified dentist who would assume full responsibility.

Further resolutions on the subject were considered and rejected by the Board of Governors in 1968 and 1969.^{13, 14} The resolution rejected in 1969 proposed:

"... That it be affirmed by the Canadian Dental Association, as a fundamental principle, that it is the dentist and the dentist alone who must be responsible for the standards and quality of dental treatment received by his patients, and ...

"... That in assuming this responsibility it is the right of a dentist within the regulatory jurisdiction of the licensing authority by which he is licensed to delegate to persons over whom he exerts effective supervision and control such duties as do not require for their performance the professional knowledge and skill of the dentist, and ...

"... That it be respectfully recommended to provincial licensing authorities to extend every effort to create such legal environment for the practice of dentistry that will make possible the effective implementation of the above principle, and ...

"... That as a fundamental requirement for the statute and regulations under which dentistry is practised, the principle of the ultimate responsibility of the dentist be clearly and unequivocally enunciated."

In the United States the dental profession has likewise demonstrated its concern for future dental manpower requirements. The Commission on the Survey of Dentistry in 1960⁸ recommended that the profession

conduct studies to consider the development of the expansion of the duties of auxiliary personnel. In 1966 the American Dental Association's Council on Dental Education submitted resolutions that stressed manpower needs and encouraged the development of training programs for auxiliary personnel and the extension of their duties under the supervision of the dentist.¹⁵ Ever since, the ADA has encouraged the revision of dental practice acts¹⁶ so that state dental examining boards can permit more effective utilization of dental hygienists and dental assistants.

These developments chronicle a growing concern on both sides of our common border over ways of alleviating an expected dental manpower shortage. This concern has naturally stimulated interest in the solutions adopted in other countries, notably New Zealand and Britain.

The New Zealand dental nurse

The New Zealand dental nurse has attracted a good deal of attention. Gruebbel, on behalf of the American Dental Association, came out with the first assessment by a North American observer.¹⁷ His declared purpose was to collect information about New Zealand's dental public health program, the training of school dental nurses and the services they render to children.

Gruebbel dwelt at length on history and background and seemed particularly interested in statements of those who opposed the original inception of the program. He judged their amalgam fillings as generally mediocre, basing his own conclusions on 61 bitewing radiographs from 121 children aged 10-14.

Gruebbel used relatively few subjects. His findings, moreover, cannot be compared with any other children who might have been treated by New Zealand dentists. He makes no allowance for teeth lost by the children cared for under the program. He admits his appraisals are based on empirical judgement. His conclusions are therefore personal opinions based on two assumptions: that the author was able to (1) evaluate New Zealand's social, political, cultural and economic status and (2) determine the quality of dental care rendered under the school program — all in the short period of his visit.

Fulton¹⁸ carried away a different impression. He investigated caries-control measures in New Zealand and their effectiveness as demonstrated in the mouths of a representative group of school children under the school program. His subjects comprised 4,072 children aged 7-14. They were selected from urban and rural sources. What emerged were the results of an attempt to cope with the problem by regular restorative care.

Fulton reported that tooth mortality was low and that the average New Zealand child had good dental health. He made no attempt to evaluate the program in terms of ideal care for the individual child; nor did he assess the state of the supporting tissues or the extent of malocclusion. Also, like Gruebbel, he had no opportunity to compare the treatment rendered by dental nurses and dentists.

Dunning¹⁹ seemed favourably impressed by the New Zealand program. He reported that older New Zealand children received more good fillings per child than did American children of comparable age. The loss of permanent teeth, he maintained, had been cut in half in the New Zealand children. Dunning also claimed that loss of permanent teeth in these children was 50 per cent

lower than in America, but he offered no support for this statement.

It is difficult to compare Dunning's conclusions about the work of New Zealand dental nurses with the dental care rendered elsewhere by dentists. Had his study compared their work with that of New Zealand's dentists, it might have been more susceptible to such a comparison.

United Kingdom ancillary workers

In 1957 Britain's General Dental Council²⁰ was directed to assess the value of a new class of "ancillary" dental workers who would be permitted to fill teeth and extract primary teeth. If feasible, these workers were to be employed by local authorities, principally to provide treatment for school children. They were specifically excluded from employment in private dental practice.

Two experienced dentists in each experimental area evaluated the treatment rendered by the auxiliaries. For this purpose they sampled 25 patients from every auxiliary. Radiographic examination was used if desirable and available. There was no baseline comparison with care rendered by other dentists. Moreover, the examiners knew that the treatment had been rendered by auxiliaries; this must have had some effect on their judgement.

Nevertheless, the General Dental Council²¹ concluded that auxiliaries can be trained in two years to carry out simple amalgam fillings. The instruction in carrying out silicate fillings and extracting primary teeth was judged inadequate, however.

Dental auxiliaries now employed in the United Kingdom work under the direction of a dentist who examines the patient and prescribes the treatment to be given by the auxiliary. During treatment, a dentist must be within call, in person and not by telephone, so as to deal with any difficulties that may arise.

When treatment is completed, a dentist must examine the patient before he is discharged. That dentist need not be the one who prescribes the treatment or the one who is "within call" during the course of treatment.

The quality of the limited clinical care carried out by British dental auxiliaries is reportedly high. Their work in dental health education is equally valuable. But their economic significance has yet to be determined and cannot be assessed from the experimental scheme.

RCDC technical therapists

In Canada, the Royal Canadian Dental Corps has experimented with its clinical technicians (dental hygienists) to determine whether they can be trained economically to undertake additional responsibilities and employed effectively in typical RCDC clinics.²² Clinical technicians who received this training were designated as technical therapists.

The three therapists chosen received a special 16 week training course. Each had previously had 34 weeks of formal training and 3.5 years' experience as a clinical technician. The additional assigned duties included application of the rubber dam; placing and removing matrix bands; packing, carving and finishing

amalgam restorations; placing and finishing silicate and acrylic restorations; and placing and finishing cement linings. Other extra duties were assigned in partial and complete denture procedures.

The experiment was set up in three parts to establish the productivity of three different combinations of personnel: (1) one dental officer and one dental assistant — the normal staffing ratio of the Corps; (2) one officer, two dental assistants and two operating rooms; and (3) one officer, two dental assistants, one technical therapist and three operating rooms.

The addition of a second assistant and a second operating room raised the dental officer's productivity by 37.4 per cent. Adding a therapist and a third operating room brought about a further increment of 61.7 per cent for a total productivity gain of 99.1 per cent.

This study showed that dental health teams permit economy in the employment of trained personnel and maintenance of a high standard of care. The Corps therefore decided to train additional therapists for further observation and evaluation. Though limited to the field of military dentistry, this project has possible applications for private practice.

American experiments

The United States Navy has also experimented with teams of dental officers and clinical technicians.²³ Comparisons were made between three groups: (1) one officer and one technician, using one chair and performing conventional treatment; (2) one officer and three technicians, using two chairs — the technicians inserting restorative materials in cavities prepared by the dental officer; and (3) one officer and four technicians, using three chairs — the technicians again inserting restorative materials in cavities which had been prepared for them.

The 12 week investigation was preceded by a practical and clinical training period of seven weeks. At the end of this experiment the US Navy concluded that technicians could perform the identified clinical procedures as competently as the average dental student with comparable clinical experience. The average restoration was judged equal or superior to that produced in average American civilian practice. Productivity increased in proportion to the additional technicians employed.

Elsewhere, in the United States, the pressing dental health needs of American Indians induced Abramowitz²⁴ to experiment with expanded duties for dental auxiliaries in the Division of Indian Health of the US Public Health Service. His primary aim was to determine whether teams with such auxiliaries could render care of comparable quality to that provided by other teams working according to traditional methods. Secondary objectives were (1) to gain information for training dental auxiliaries to perform additional functions and (2) to assess the effect upon the quantity of services provided when the auxiliaries' functions were expanded in dental teams consisting of one dentist and two assistants.

Abramowitz concluded that important latent abilities of dental auxiliaries were being wasted. But the small size of his study precluded any definite conclusions concerning potential change in clinical efficiency. Nevertheless, he observed that the efficiency of the auxiliaries improved as the study progressed.

At the University of Alabama, Hammons²⁵ tested

dental auxiliaries who were specially trained to perform some of the operations traditionally rendered by dentists. These included taking impressions for study casts, placing and removing rubber dam, temporary restorations and matrix bands, condensing and carving amalgam restorations in previously prepared teeth, placing silicate and acrylic restorations in previously prepared teeth, and applying the final finish and polish to these restorations.

Potential trainees were carefully selected and given special instruction for two years. Patients of advanced undergraduate students formed a control group. An evaluation manual was prepared for private practitioners who served as evaluators. They judged the auxiliaries' restorations superior to students' restorations in terms of marginal integrity and tissue integrity.

The University of Alabama study is the most thorough one carried out to date. The extra time devoted to training the auxiliary prior to the experiment seems to have had a beneficial effect on the quality of the services provided.

Conclusions

Canadian population projections over the next two decades clearly point to a proportionate growth in the demand for dental care. Rising economic and educational standards will likely accelerate this demand; so will the public's changing philosophy about social needs — an attitude that is reflected by governments throughout the western world.

In these circumstances, our capacity to produce more dentists is unlikely to match the anticipated demand for dental care. Other methods must therefore be found to relieve the manpower shortage. This problem cannot be resolved at short notice. We must therefore establish goals now and work toward these objectives as quickly as possible.

A partial remedy lies in the utilization of auxiliaries with expanded duties. Four North American studies have demonstrated the benefits to be derived from such personnel: team productivity increased without impairing the quality of service rendered.

This kind of solution is not entirely devoid of risk, however. Experience in some other countries suggests auxiliaries may engage in diagnostic procedures if they are not properly supervised. And certain American states have had to regulate the ratio of hygienists to dentists in order to suppress the formation of commercial enterprises.

Dentists must be vigilant if they wish to prevent commercial exploitation of the practice of dentistry. But they must at the same time respond to society's changing needs. And they should heed Taylor's²⁶ admonition that the primary health professions must provide a mechanism for welding ancillary services into a team. "The physician and the dentist," says Taylor, "can equally give attention to this problem. The educational level of their assistants will be determined to a great extent by what is expected of them. If the auxiliary personnel are expected to perform at an increasingly higher level, then opportunities must be provided for proper training. This task cannot be delegated."

Thus, and only thus, can dentists effectively develop auxiliaries with expanded duties and promote the concept of team care — for the ultimate purpose of delivering a greater volume of high quality care to the public.

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Changing concepts about the dento-epithelial junction

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Recent research has shown that epithelial cells derived from reduced ameloblasts and from oral epithelial can attach themselves to the tooth. The junction is mediated by hemidesmosomes (intercellular bridging corpuscles) and a cellular basement lamina. The cells resist separation from the tooth surface but are capable of gliding along it. The attachment, though firm, is thereby capable of motion in relation to the tooth surface. Such a sliding epithelial attachment is analogous to the manner in which epithelial cells at the edge of a skin wound will glide over denuded tissue to restore the epithelial cover.

Des recherches récentes ont démontré que les cellules épithéliales tirées d'améloblastes réduits et du tissu épithélial buccal peuvent se fixer à la dent. La fixation se fait au moyen d'hémidesmosomes (des molécules qui comblent l'espace intercellulaire) et une lame de base cellulaire. Alors que les cellules ne se laissent pas séparer de la surface de la dent, elles peuvent cependant y glisser. Bien que ferme, l'attachement est capable de déplacement relativement à la surface de la dent. Ce type d'attachement épithélio-dentaire mobile est analogue à celui des cellules épithéliales qui, se trouvant sur les bords d'une plaie cutanée, glissent sur le tissu dénudé pour reformer la protection épithéliale.

As one of the first regions affected by periodontal disease, the dentogingival junction has received a great deal of attention from investigators concerned with periodontal pathogenesis. This article recapitulates some former concepts about the human dento-epithelial junction and presents the most recent findings on this topic.

Prior to 1921 it was believed that the oral and odontogenic epithelium fused into a continuous lining as the tooth erupted. This lining protected the oral as well as the crevicular surface of the gingival connective tissue. Only the most apical extension of the crevicular epithelial lining was thought to be attached at the cemento-enamel junction (Fig 1).¹

In 1921 Gottlieb^{2,3} presented histological evidence for what he called an epithelial attachment (Epithelansatz). He said that ameloblasts produce a primary enamel cuticle (Primäres Schmelzoberhäutchen) fol-

lowing the completion of amelogenesis and prior to the disintegration of the ameloblasts, stratum intermedium and stellate reticulum. This cuticle forms an organic bond joining the enamel to the cells of the remaining outer enamel epithelium. At the time of eruption, as the oral epithelium fuses with the outer enamel epithelium, the base of the sulcus becomes established at the junction of the two epithelia. Gottlieb thought that the outer enamel epithelium in contact with the primary enamel cuticle becomes keratinized, the keratinized surface forming a cornified layer over the primary enamel cuticle. He called this cornified layer the secondary enamel cuticle (Sekundäres Schmelzoberhäutchen). Gottlieb maintained that the width of the attachment is more or less constant. As the base of the sulcus moves apically, a corresponding apical migration of the attachment supposedly maintains the width of the band of attached epithelium. The attachment, which originally was over enamel only, thus creeps onto the cementum. Gottlieb's concept (Fig 2) quickly gained wide recognition and remained unchallenged for 30 years.

In 1929 Becks⁴ proposed a slight modification to Gottlieb's concept. He suggested that the oral epithelium proliferates apically along the outer surface of the odontogenic epithelium, and that the sulcus has its base at the coronal end of the junction of the oral and odontogenic epithelium (Fig 3). Becks also claimed that the enamel epithelium is completely destroyed by age 20 to 30 with oral epithelium forming the new attachment.

Waerhaug⁵ was the first investigator to challenge Gottlieb's concept of an epithelial attachment. In 1952 he reported that he could introduce with relative ease thin metal strips into the gingival sulcus of men, monkeys and dogs to a level corresponding to the cemento-enamel junction. Waerhaug regarded this as adequate proof that a true attachment did not exist. He used these observations as well as histological evidence to support the existence of a loose epithelial cuff closely apposed to the enamel surface (Fig 4).

Waerhaug's findings, however, were not readily duplicated by other investigators. In 1960 Weinreb⁶ used strips and sulcular injections of self-curing resins to demonstrate a potential space between the epithelium and the enamel, but failed to do so. In most cases the epithelium was torn by the foreign material, with cells remaining attached to the tooth.

Some earlier observations by Macapanpan⁷ also suggested that the epithelium was more firmly con-

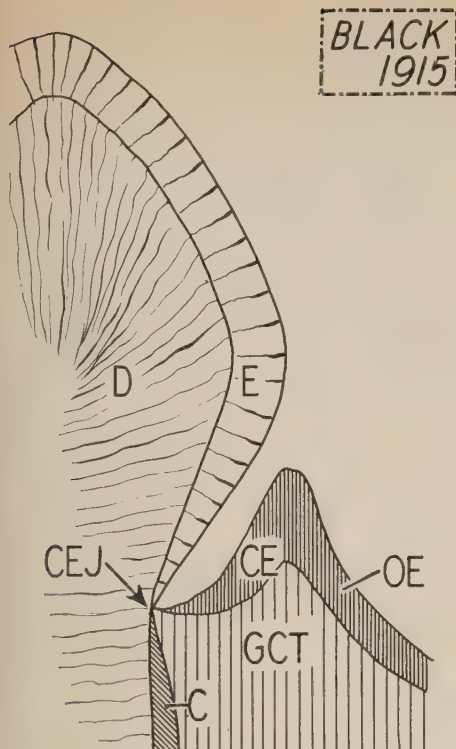


Fig 1 Black's concept of the dento-epithelial junction. Only the apical end of the crevicular epithelium (CE) is attached at the cemento-enamel junction (CEJ). C, cementum. D, dentine. E, enamel. GCT, gingival connective tissue. OE, oral epithelium.

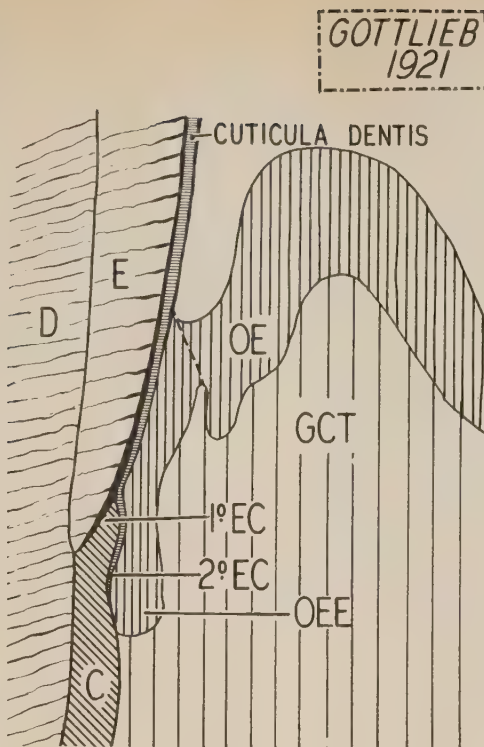


Fig 2 Gottlieb's concept of the dento-epithelial junction. Only cells derived from the outer enamel epithelium (OEE) are attached to the enamel surface (E) which is covered by a primary enamel cuticle (1°EC), an end-product of ameloblastic secretion. The secondary enamel cuticle (2°EC) is a cornified product of the outer enamel epithelium which attaches the epithelium to the primary enamel cuticle. The primary and secondary enamel cuticle combine to form the cuticula dentis. The bottom of the gingival crevice is at the junction of oral epithelium (OE) and outer enamel epithelium (dotted line). In time, the epithelial attachment migrates apically over the cementum (C), with a corresponding apical displacement of the base of the gingival sulcus. D, dentine. GCT, gingival connective tissue.

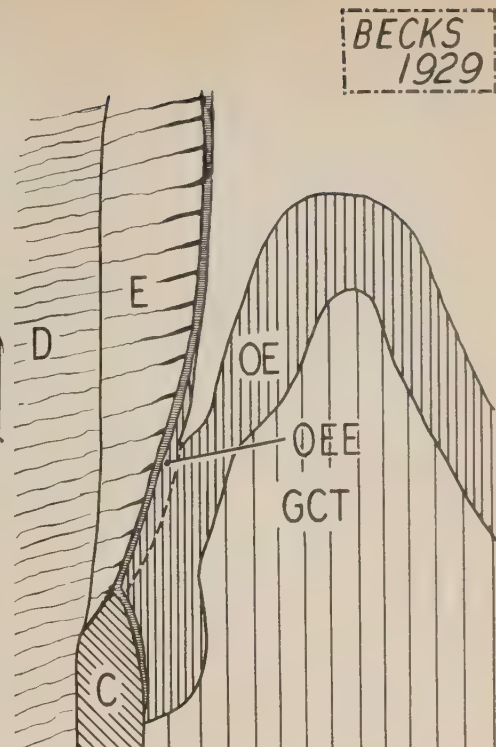


Fig 3 Becks' modification of Gottlieb's concept of the dento-epithelial junction. The oral epithelium (OE) migrates over the external surface of the outer enamel epithelium (OEE). The base of the gingival crevice is at the coronal end of the line of fusion between oral epithelium (OE) and outer enamel epithelium (OEE). D, dentine. E, enamel. GCT, gingival connective tissue.

nected to the tooth than Waerhaug's findings seemed to indicate.

It was not clear at that time whether the epithelial cells were firmly attached to the tooth in Gottlieb's sense, or whether they were merely adapted to form an epithelial cuff according to Waerhaug's proposal.

Radioautography

In 1962 Greulich⁸ demonstrated radioautographically that cells of the epithelial attachment move coronally in relation to a fixed point on a mouse molar. He concluded that a firm attachment of the epithelium to the tooth is, therefore, unlikely.

Subsequently, several additional radioautographic studies⁹⁻¹⁴ confirmed and extended Greulich's observations (Fig 5). Three of these reports¹²⁻¹⁴ showed that reduced ameloblasts are incapable of division but that cells of the outer layers, consisting primarily of stratum intermedium,¹⁵ proliferate more rapidly as the tooth approaches the oral epithelium. These dividing cells,

together with cells provided by rapid cell division in the basal layers of the oral epithelium, apparently unite into a cuff which moves apically as eruption progresses (Fig 6). Presumably aided by the continuous turnover of the cells, the cuff's reduced enamel epithelium is gradually replaced by squamous epithelium (Fig 7, 8).

Though none of these findings ruled out the possibility of a firm attachment between enamel and the reduced enamel epithelium, they seemed to indicate that the latter is gradually replaced by an epithelial cuff which is probably not firmly attached to the tooth.

Electron-microscopy

The advent of electron-microscopy added a new dimension to investigations of the dento-epithelial junction. In 1962 Stern¹⁶ described the junction between reduced ameloblasts and enamel in the rat incisor. He observed hemidesmosomes on the cell membrane facing the enamel surface. A basement lamina, which he called a "cuticular membrane," occupied the space between the enamel and the cell membrane with its

hemidesmosomes. Listgarten¹⁷ made similar observations at the junction of reduced ameloblasts and enamel in unerupted human teeth. Here the attachment between reduced ameloblasts and enamel consisted of hemidesmosomes and a basement lamina (Fig 9) and resembled the attachment apparatus observed at the junction of other epithelial membranes and their underlying connective tissue, including gingival epithelium.¹⁸⁻²¹

The reduced enamel epithelium is frequently missing near the cemento-enamel junction (Fig 10). The exposed enamel surface is then covered with a cementum-like granular material exhibiting appositional lines (Fig 9 and 11). A similar material has been observed over larger areas of enamel in amelogenesis imperfecta, a hereditary disease characterized by premature degeneration of the enamel epithelium.²² This mineralized granular material, originally referred to as a type A cuticle, appears to contain acid mucopolysaccharides and non-fibrillar collagen. This suggests that the material originates from connective tissue and may represent a form of afibrillar cementum in which the collagen does not exist in its fibrillar state. Its exact mode of formation is obscure, but it seems to be limited to the enamel surface and appears to depend on prior degeneration of the reduced enamel epithelium. It does not correspond to Gottlieb's description of a primary enamel cuticle; nor does electron-microscopy reveal anything resembling a true cuticle which might be an end product of amelogenesis.

In erupted human teeth, the dento-epithelial junction is structurally similar to the junction of enamel with

reduced ameloblasts.²³ Some of the cells in contact with the tooth may represent remains of the reduced enamel epithelium but, unlike in unerupted teeth, they are attached to afibrillar and root cementum as well as enamel.

The attachment always consists of hemidesmosomes and a basement lamina. In addition, a cuticular structure, referred to as a type B cuticle, is frequently interposed between the dental tissues and the epithelial cells (Fig 11). This appears as a mottled, homogeneous, electron-dense layer after osmic acid fixation and heavy metal staining. Unlike the afibrillar cementum, this cuticle is apparently unmineralized and is generally associated with prolonged presence of the epithelial attachment over a given area of the tooth. It may represent a deposition of inspissated basement lamina material which, because of its anatomical location, cannot be readily removed as new basement lamina material is synthesized by the epithelium. The cuticle remains firmly attached to the tooth surface during passive eruption as the attachment migrates apically. Acquired pellicles of bacterial and other origin may subsequently become deposited over its surface.

The type B cuticle probably corresponds to Gottlieb's³ secondary enamel cuticle or dental cuticle. However, electron-microscopy and histochemical analysis have shown that it is not cornified.^{24,25} Hodson²⁵ has suggested that the dental cuticle may originate from denatured haemoglobin.

To prove beyond doubt that oral epithelium alone can form such an epithelial attachment, gingivectomies were performed in two monkeys. The tooth surfaces

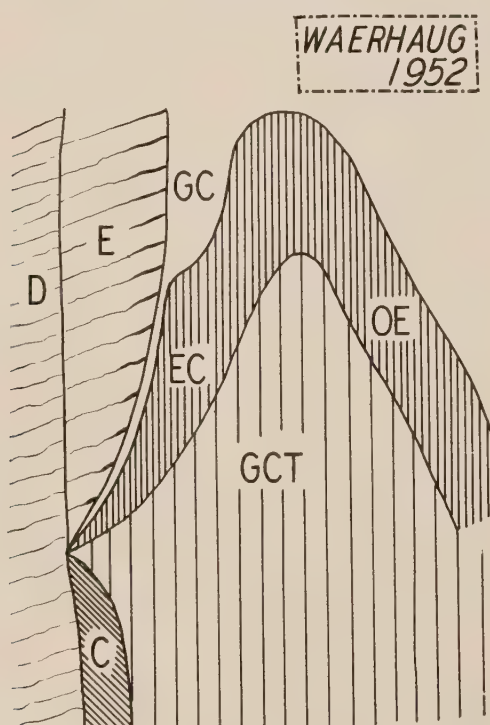


Fig 4 Waerhaug's concept of the epithelial cuff (EC). A potential space is considered to exist between the enamel (E) and the epithelium in contact with it. C, cementum. D, dentine. E, enamel. GC, gingival crevice. GCT, gingival connective tissue. OE, oral epithelium.

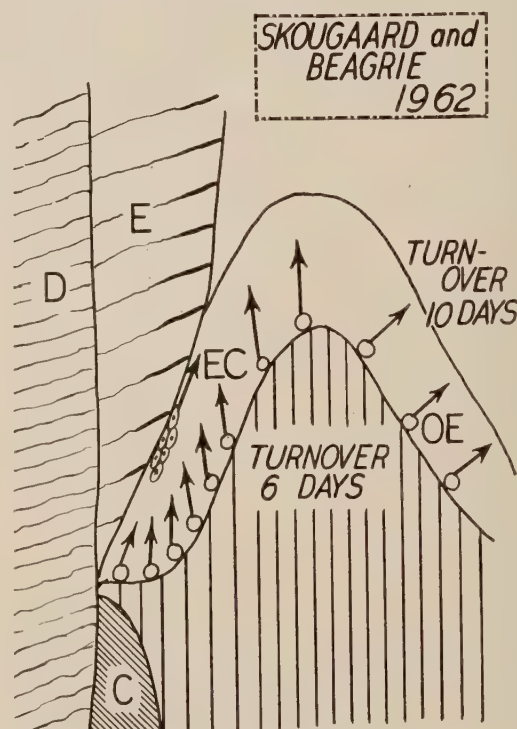


Fig 5 Autoradiographic experiments have shown how cells move from the basal layer of epithelium toward the oral cavity (arrows). Skougard and Beagrie (1962) cite the following cell turnover times: epithelial cuff (6 days); oral epithelium (10 days). C, cementum. D, dentine. E, enamel. EC, epithelial cuff. OE, oral epithelium.

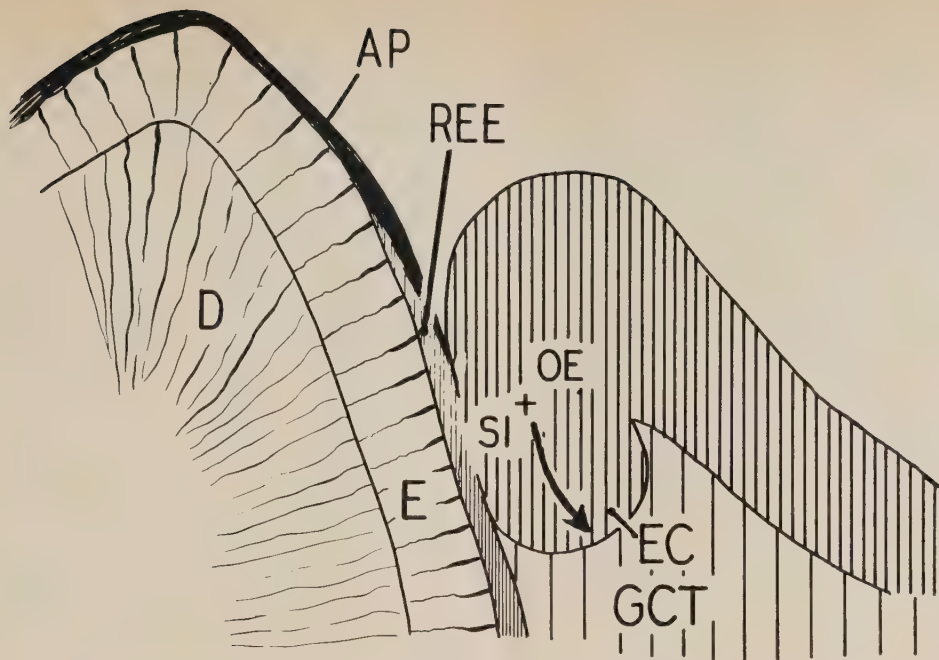


Fig 6 Shortly after eruption, an epithelial cuff or collar (EC) derived from the oral epithelium (OE) and stratum intermedium (SI) migrates apically over the reduced enamel epithelium layer (REE) covering the enamel (E). Remains of the reduced enamel epithelium layer can also be found over the erupted portion of the tooth in the area of the gingival crevice. Most of the erupted tooth surface is covered by an acquired pellicle (AP). D, dentine. GCT, gingival connective tissue.

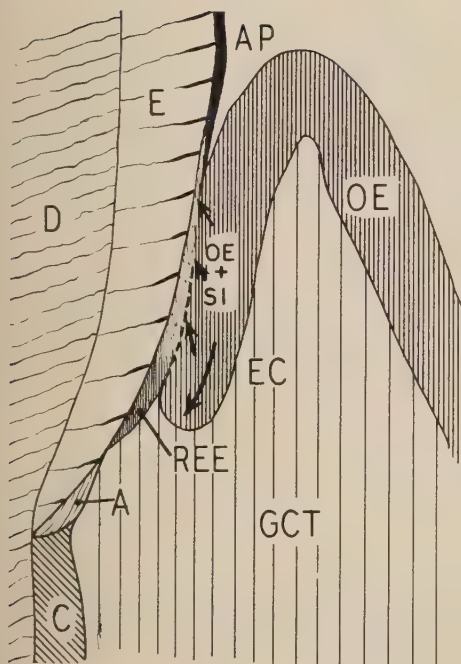


Fig 7 As the epithelial cuff (EC) migrates apically, it gradually replaces the internal layer of reduced enamel epithelium (REE). This replacement may be facilitated by the direction of movement of the cells in the epithelial cuff (arrows). A, type A cuticle. AP, acquired pellicle. C, cementum. D, dentine. E, enamel. GCT, gingival connective tissue. OE, oral epithelium. SI, stratum intermedium.

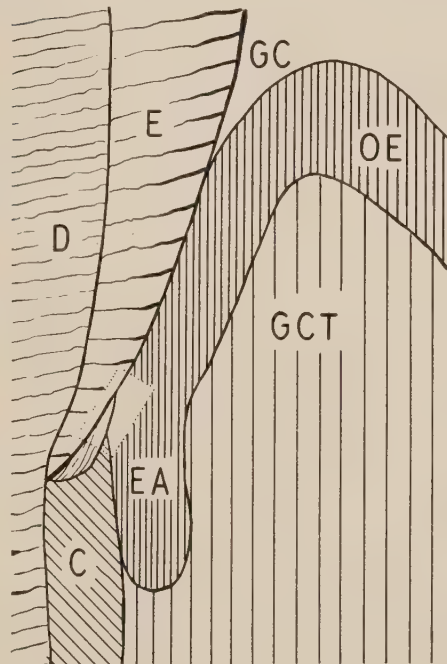


Fig 8 Eventually, the epithelial attachment (EA) may consist only of cells derived from the epithelial cuff referred to in Figure 6. This attachment may gradually come to lie more and more over cementum (C). D, dentine. E, enamel. GC, gingival crest. GCT, gingival connective tissue.

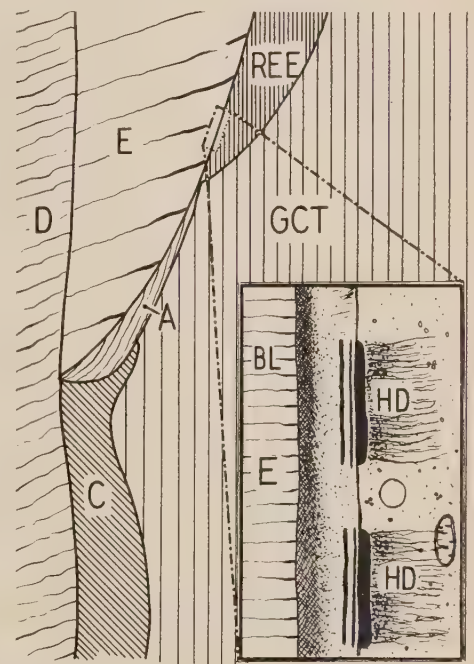


Fig 9 The junction of reduced enamel epithelium (REE) and enamel (E) is mediated by hemidesmosomes (HD) and a basement lamina (BL). This junction is morphologically similar to that between cells derived from oral epithelium and any portion of the tooth to which they are connected. A, type A cuticle. C, cementum. D, dentine. GCT, gingival connective tissue.

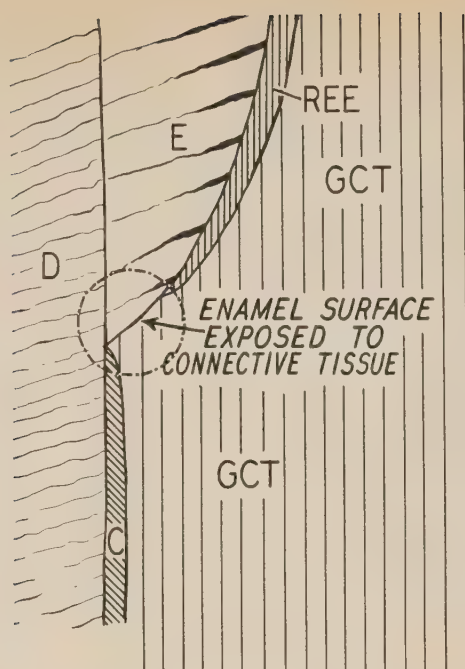


Fig 10 In normal human teeth, a small area near the apical border of the enamel (E) may become exposed to the gingival connective tissue (GCT) because of shrinkage or degeneration of the reduced enamel epithelium (REE). The layered type A cuticle shown in Figure 9 may be formed in such areas. This structure resembles cementum (C) histochemically and in its ability to become mineralized, yet differs from cementum by having no fibrillar collagen. Cementum may occasionally overlap a portion of this cuticle, as in Figure 9. D, dentine.



Fig 11 Magnified view of the area outlined in Figure 8. A type B cuticle (B) is shown between the cells of the epithelial attachment (EA) and the tooth. This cuticle may represent an accumulation of inspissated basement lamina material which is presumably produced by the epithelial cells but not readily removed. It may persist on erupted tooth surfaces and become covered by various types of acquired pellicles. A, type A cuticle. C, cementum. E, enamel. GCT, gingival connective tissue.

were thoroughly curetted to remove any remaining epithelium. Two and four months later the teeth were extracted with the newly formed gingiva in situ. In all cases a new attachment had formed. It featured hemidesmosomes and a basement lamina at the new dento-epithelial junction.²⁶

Conclusion

Evidently epithelial cells, whether of odontogenic origin (reduced ameloblasts) or whether they are exclusively derived from oral epithelium, can attach themselves to the tooth by means of hemidesmosomes and a basement lamina. This attachment is by no means static. Though firm, it is nevertheless capable of motion in relation to the tooth surface as indicated by radioautographic studies. Although the cells may resist separation from the tooth surface or its associated cuticular structures, they are capable of gliding along these surfaces.

This is not, of course, a very revolutionary concept. We have known for some time that if skin surface is abraded, the epithelial cells at the edge of the wound will glide over the denuded tissue to restore the integrity of the epithelial cover. Yet, such epithelium is not readily separated from the underlying connective tissue.

The analogy between a sliding epithelial attachment and the epithelium of the skin wound is emphasized by the close anatomic similarity of the attachment appa-

ratus in both cases. Although the origin or role of the type B cuticle is still unclear, it appears to be a by-product of basement lamina synthesis which can be found on any part of the tooth that has been, at one time, in prolonged contact with the epithelial attachment.

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The Affluence Explosion – Though the average urban Canadian has increased his income by nearly 50 per cent over the past 10 years, most of that increase has been matched by rising costs. Dominion Bureau of Statistics figures show that the cost of house ownership has actually risen faster than salaries since 1961; it's up 49.9 per cent. The cost of building materials did not keep pace with escalating incomes, as it only rose 38.9 per cent. But land is somewhat more expensive and, while incomes have gone up, so have the salaries of construction workers and tradesmen. Over the decade, dentists' fees jumped 55 per cent for a filling and more than 60 per cent for an extraction, but the cost of dentures went up only 40 per cent. The automobile, household plastic prod-

ucts, appliances, television sets and radios and drugs have all dropped in price over the decade, according to the DBS percentage figures. However, auto insurance has risen by nearly 57 per cent, and the cost of replacing a crumpled fender is up over 60 per cent. Public transit is up 70 per cent; travel by trains, buses and planes costs 31 per cent more today. Eggs have risen in price only 5 per cent in 10 years, and fats and oils are up only 5.7 per cent. Milk, which sold at 24 cents a quart in 1961, now goes for 32 cents a quart. Poultry rose only 13 per cent, but fish is up 38 per cent and beef and pork are up 40 per cent. It all adds up to what the economists now term the "Affluence Explosion."

Book Reviews

Formation and Inhibition of Dental Calculus

H. E. Schroeder. Berne (Switzerland), Hans Huber Publishers, 1969. 212 p. Illus. Fr. 36.—

This text is primarily a review of all the research that has been carried out relevant to calculus. The material is well organized and is augmented by the description of some of the author's own research. The thoroughness with which the subject is covered is attested by a bibliography covering 26 pages and an author's index of six pages. In short, Doctor Schroeder has provided an excellent reference text for students and research workers.

J. D. Stewart

The Management of Dental Practice

Edward Samson. London, Henry Kimpton, 1969. 340 p. 70s.

As the author states, "the purpose of this book is to show that sufficient financial return can be attained while giving the highest standard of service; that, by observing the basic rules of efficient practice management, the dentist can practise both successful dentistry and dentistry successfully."

Dr. Samson is a pioneer in the field of practice management, having produced the first book on this topic in 1931. He defines the subject as "not just a means of earning higher fees, or of doing less for bigger returns, but an application of principles, vision and planning to run a practice so efficiently that a requisite amount of treatment can be produced in circumstances the least trying to both patient and dentist." This definition includes all phases of work simplification plus the efficient conduct of the business aspect of dentistry.

I wholeheartedly agree with Dr. Samson's plea for better undergraduate instruction on the subject. Unfortunately, it is sometimes difficult to observe the highest ethical precepts and far easier to commit errors of judgement and behaviour in dental practice. Accordingly, this book is primarily intended for re-

cent graduates or enthusiastic final year students looking for an associate.

Much is written about partnerships, acquiring an assistant and remuneration. There are also examples of contracts. This could be of value to readers contemplating such a move. Extensive detail is given in discussing locations and office planning. There are even suggestions for interior decorating. The chapter on personnel, including the secretary-receptionist, the surgery assistant and dental hygienist, is also comprehensive. The added description of desirable personal and behavioural characteristics would make an excellent basis for an office manual.

Since England is under the National Health Scheme, the chapter on the General Dental Service and all its related forms and records does not, of course, apply in this country. This information is nevertheless enlightening and should make us aware of problems that may not be too far away.

Especially noteworthy is the regulation from the General Dental Service which requires that "the dentist must provide proper waiting-room and surgery accommodations suitably equipped with furnishings and instruments, and on being given adequate notice must admit a Dental Officer at all reasonable times for the purpose of inspecting the premises." Could all of us pass the test?

This book may only have practical value for a few select readers but it is most informative regarding the British dentist's business affairs.

P. M. Beck

Precision Attachments

G. E. Ray. Bristol, John Wright & Sons Limited, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 55 p. Illus. \$1.90

This handbook does little to clarify the motives and selection of precision attachments—for the student or the general practitioner.

It consists mainly of case histories accompanied by accounts of the author's treatment and small photographs which reveal very little.

There is a multitude of drawings of many types of attachments. These illus-

trate the technical details of construction for the technician. Their advantages and disadvantages, if clearly stated, might have enhanced the value of this handbook. Also included are several tables which list uses for various appliances but do not give specific reasons for their application.

Nevertheless, this work has merit for readers who seek a better understanding of precision appliances and search for a booklet that may strengthen rapport between the dentist and the technician.

W. D. P. Cavanagh

Oral Care for Oral Cancer Patients

Report of conference held in Chicago, June 1968. US Public Health Service Publication No 1958. Washington, US Government Printing Office, 1969. 67 p. \$0.40

This 67 page booklet is a report of a conference held in Chicago, June 1968. The subject of "Oral Care for Oral Cancer Patients" was discussed by five groups covering different aspects: care of the teeth, prosthetic replacements, management of bone, management of soft tissue, maintenance of general and oral health.

The five chapters cover material of interest to the dentist in general practice, whether or not he is directly involved in service to cancer patients, since all of them deal with care before, during and after treatment.

In a relatively brief report such as this, one should not expect detailed discussion of technique. The subject is treated, rather, from the standpoint of a terse outline and discussion of the principles involved; the reader is left to find the details elsewhere, possibly in the works listed in the reference and bibliography tables.

The value of this pamphlet to the practising dentist lies in its concise presentation of material that he does not have at his fingertips, and as a starting point in finding the information he may need should any phase of the management of a cancer patient become his problem.

R. Mulrooney

Local Anesthesia and Pain Control in Dental Practice

L. M. Monheim. Ed 4. St. Louis, The C. V. Mosby Company, 1969. 328 p. Illus. \$11.85

This fourth edition of *Local Anesthesia and Pain Control in Dental Practice* has undergone major revision in two most vital areas. The section on medical emergencies in the dental office has been completely reorganized and provides a most adequate presentation of the subject. A similar improvement is noted in the chapter on preanaesthetic evaluation and choice of anaesthetic.

The table of contents has been greatly abbreviated and is now more precise than in previous editions.

Dr. Monheim again provides a publication that is well illustrated with diagrams and photographs and which contains information essential for understanding and appreciating the value of pain control in dentistry.

This book continues to be an excellent text for both student and practitioner thanks to the several comprehensive revisions.

A. E. Hoffman

Analyse de livres

Art dentaire et psychotechnique

A. Malençon. Paris. Librairie Maloine, 1967. 124 p. Illustré. 18F.

"La fatigue est un état du corps et de l'esprit qui résulte de continues conditions de vie et de travail défavorables amenant une faiblesse des capacités physiques et mentales". Avec cette définition comme point de départ, l'auteur entreprend de longues discussions sur le poste de travail, les positions et les gestes, le fauteuil opératoire, les méthodes de travail, l'instrumentation, l'éclairage, etc. Il en arrive même à nous expliquer "comment vendre les soins et prothèses dentaires"!

Peu de photos, mais beaucoup de dessins schématiques qui sont très clairs. Bien que ce volume puisse faire les délices d'un puriste, nous nous objectons sérieusement à certaines idées, comme par exemple: "Efforçons-nous de donner au patient l'impression que nous avons le temps et les connaissances nécessaires . . ." (p 116). S'agit-il d'inciter le praticien à pratiquer la déception?

Le vocabulaire manque parfois de délicatesse: l'auteur discute des prix (honoraires), de la productivité (nous préférons efficacité), de clients (nous laissons ce mot aux commerçants et parlons de patients), et de vente!

En bref, ce livre est un mélange de Kilpatrick, Hoffman, Stinaff, Anderson,

Morrison et autres. Le lecteur un tant soit peu familier avec la langue de Shakespeare aura peut-être avantage à les consulter. Il reste néanmoins que Malençon a fait le point en français du "time and motion" américain, et il le fait avec grande compréhension, puisque, selon lui, il étudie ces problèmes depuis 1946. C'est un volume qu'un praticien unilingue doit consulter et étudier avant d'entreprendre des changements dispendieux dans son cabinet.

Marcel Hébert

Formation and Inhibition of Dental Calculus

H. E. Schroeder. Berne, Hans Huber Publishers, 1969. 212 p. Illustré. Fr. 36.

Un chercheur suisse très actif présente une revue d'un sujet qui est devenu une spécialité vaste et multidisciplinaire. Le livre résume d'abord les connaissances générales sur le tartre: histoire, définitions, épidémiologie, etc. Plusieurs chapitres traitent des relations entre les plaques bactériennes, le tartre, les maladies du périodonte et la carie. La plus grande partie du volume présente une revue des résultats de recherches et de l'évolution de nos connaissances sur la formation du tartre. L'étude de l'inhibition de la formation du tartre comprend 34 pages. Une partie respectable présente les résultats des travaux de l'auteur et son équipe. L'appendice décrit brièvement certaines méthodes modernes dont l'auteur s'est servi pour ses recherches.

Le livre de Schroeder peut servir comme un manuel à tous les dentistes qui ont un intérêt clinique; il peut satisfaire aussi ceux qui ont une curiosité plus profonde et ceux qui veulent entreprendre une recherche bibliographique.

En général, l'auteur présente les conclusions des chercheurs avec son appréciation et sa critique personnelle de ceux-ci. Il ne donne pas beaucoup de détails qui permettraient aux lecteurs de faire eux-mêmes une évaluation des travaux cités. Cette approche subjective a l'avantage que le livre se lit très bien. Même en praticien qui n'est pas habitué à évaluer les travaux de recherches trouve rapidement les conclusions importantes. L'auteur fait un bon effort pour être objectif et par son expérience, il mérite beaucoup de confiance en sa critique. Probablement la plupart des dentistes trouveront cette approche plus agréable que celle où l'on présente des centaines de résumés plus complets mais sans commentaires, sans évaluation. Le lecteur qui veut faire une étude approfondie d'une question particulière trouve dans ce livre de Schroeder un bon début pour chercher les détails dans les originaux.

Les dentistes qui ne peuvent pas suivre la vaste littérature sur les recherches, trouveront dans ce volume des renseignements bien satisfaisants sur l'état actuel de questions intéressantes, comme les suivantes:

Elaboration des indices épidémiologiques pour une évaluation quantitative des plaques bactériennes, du tartre et des lésions du périodonte marginal. Les difficultés d'arriver avec ces indices aux conclusions de valeur pratique.

Les résultats pauvres et inconciliables des travaux qui cherchent à expliquer par les différences en composition chimique de la salive pourquoi certains individus forment beaucoup de tartre et d'autres peu.

Les notions sur l'initiation de la formation des cristaux par la nucléation ont changé les idées classiques; le tartre ne se forme pas simplement par une précipitation des minéraux.

Les expériences sur les individus avec une gencive normale ont montré que la formation des plaques est suivie d'une gingivite, l'enlèvement des plaques est suivi de la guérison de la gingivite. La gingivite semble correspondre à la présence de certains microorganismes dans la plaque. Le rôle du tartre lui-même n'est pas prouvé. Le problème du rôle des antigènes microbiens est trop récent pour permettre des conclusions.

Les observations de la formation de la plaque et du tartre à l'aide des plaquettes 'Mylar foil' attachées aux dents ont changé l'idée classique que les microorganismes filamenteux servent à fixer la plaque sur l'émail. Cette technique a aussi permis de déterminer assez précisément le temps de la formation du tartre (temps dans lequel un dépôt mou devient calcifié) et le taux de formation de dépôts (quantité du matériel formé par jour) sur une plaquette standardisée. Le temps de formation du tartre est rarement plus que 12 jours et varie peu. Le taux de formation de dépôts est exprimé en centième de milligramme et varie beaucoup de patient en patient.

Les études cristallographiques, chimiques et histologiques montrent des différences importantes entre le tartre subgingival et supragingival, un fait qui a été souvent contesté.

Les recherches récentes confirment que le liquide gingival qui sort des poches est plutôt un exsudat inflammatoire qu'une sécrétion. Son rôle dans la formation du tartre subgingival est étudié par des techniques nouvelles.

Un livre de ce genre ne peut pas être complet dans tous ses chapitres. La bibliographie de 26 pages n'est pas complète; elle contient surtout des références anglaises et allemandes. Les trois références françaises que nous y avons trouvées datent du 18e et 19e siècles.

Etant donné le but et l'approche de ce livre, c'est un travail excellent. Il présente très bien l'état actuel des problèmes du tartre. Je le recommande sans

hésitation pour la bibliothèque de chaque dentiste progressif.

Zdenek Mézl

Facial Pain and Mandibular Dysfunction

Laszlo Schwartz et C. M. Chayes. Philadelphie et Londres, W. B. Saunders Company, 1968. 365 p. Illustré. \$17.85

Ce livre fut conçu et ordonné par le regretté Laszlo Schwartz avant son décès. Dans son manuscrit, le Dr Schwartz a voulu rassembler l'opinion de plusieurs auteurs, ce qui confère à son ouvrage un éventail d'opinions sur un sujet très diversifié.

Il est à remarquer que plusieurs articles inclus dans cet ouvrage proviennent de travaux du Dr Schwartz, lesquels ont déjà été publiés ailleurs. Les 15 autres chapitres du volume furent écrits, en particulier, par des auteurs spécialisés dans un domaine très précis et important, comme le dit d'ailleurs le Dr H. Houston Merritt dans la préface: "La tête et la figure sont sujets à des maux chroniques persistants ou temporaires plus souvent que toute autre partie du corps humain".

Le docteur Merritt déclare aussi que la pathogénicité des douleurs faciales dépend de l'intérêt des médecins consultés. Les otorhino-laryngologistes ont tenté d'expliquer ces douleurs par les sinus ou la névralgie des ganglions sympathiques; les psychiatres ont mis l'accent sur les troubles émotifs; et les dentistes et chirurgiens buccaux essaient d'interpréter le problème par la malocclusion dentaire et la dysfonction de l'articulation temporo-maxillaire.

Ces dernières explications sont fortement élaborées dans le volume, mais il n'existe pas de solution rapide et précise. L'examen complet du patient est de rigueur et doit être fait de façon méticuleuse et précise à la fois.

Ce volume s'adresse à ceux qui s'intéressent à ces problèmes et qui ont l'esprit scientifique un peu plus poussé. L'étudiant saura aussi bien profiter de l'éventail des idées émises.

Guy Maranda

Library/Bibliothèque

The library of the Canadian Dental Association is open daily from 9:00 a.m. to 5:00 p.m. except Saturdays and Sundays. Books and periodicals may be borrowed by members by writing to the Librarian, Canadian Dental Association, 234 St. George Street, Toronto 180, Ont. Books are loaned under the following terms: (1) The borrowed book may be

retained for a two week period from the date received by the borrower. (2) Renewal for a further two week period will be permitted provided the book is not requested by another member. (3) Postage on books is paid by the Association. New books are listed periodically in the Journal.

La bibliothèque de l'Association Dentaire Canadienne est ouverte tous les jours, excepté le samedi et le dimanche de 9h. a.m. à 5h. p.m. à tous les membres et à toute autre personne intéressée. Les membres peuvent emprunter des volumes et des revues dentaires en écrivant à la Bibliothécaire de l'Association Dentaire Canadienne, 234 St. George Street, Toronto 180, Ont. Voici les conditions d'emprunt: (1) Les volumes peuvent être empruntés pour une période de quinze jours, à compter de la date de réception. (2) Un renouvellement de deux semaines est accordé, pourvu que dans l'intervalle, aucune demande n'ait été faite pour les mêmes volumes. (3) L'Association paie les frais de port. De nouveaux volumes seront à votre disposition au fur et à mesure qu'ils seront publiés. La liste de ces volumes paraît dans le Journal aussi souvent que possible.

Additions/Acquisitions

BERGENHOLTZ, A. Palatal mucosa in organ culture; an experimental study in the cat. (Acta Odont Scand Vol 27, Suppl 54, 1969) Sweden, University of Umea, 1969. 84 p. illus.

BLAKE, J. B. and ROOS, C., ed. Medical reference works, 1679-1966. A selected bibliography. Chicago, Medical Library Association, 1967. 343 p. \$10.00

ERICSON, T. Studies on salivary glycoproteins. (Acta Odont Scand Vol 26, Suppl 51, 1968) Stockholm, Sweden. 20 p. \$3.00

FINN, S. B., ed. Biology of the dental pulp organ: a symposium. Birmingham, Ala, University of Alabama Press, 1968. 466 p. \$15.00

GOLDMAN, H. M. and COHEN, D. W. An introduction to periodontia. Ed 4. St. Louis, Mosby, 1969. 441 p. illus. \$12.65

HEKNEBY, M. Distribution of load with the lower free-end partial denture; some factors of importance for the distribution of load to the saddle base and the supporting teeth in the light of model experiments. (Acta Odont Scand Vol 27, Suppl 52, 1969) Stockholm, Sweden, 1969. 190 p. illus. \$10.00

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH. Proceedings of the Fourth International Conference on Oral Biology, Copenhagen, Denmark, July 15-17, 1968. (Journal of Dental Research, Vol 48, No. 5, 1969) Pages 611-855. illus.

OTOLARYNGOLOGIC CLINICS OF NORTH AMERICA, June 1969. Symposium on maxillofacial and related injuries. Philadelphia and Toronto, Saunders, 1969. Pages 221-470. illus. \$7.95

PERSSON, G. General side-effects of local dental anaesthesia, with special reference to catecholamines as vasoconstrictors, and to the effect of some premedicants. (Acta Odont Scand Vol 27, No 53, 1969) Sweden, University of Umea Press, 1968. 466 p. illus. \$15.00

PORTER, K. R. and BONNEVILLE, M. A. Fine structure of cells and tissues. Ed 3. Philadelphia, Lea & Febiger, 1968. 196 p. illus. \$10.75

SCOPP, I. W. Oral medicine; a clinical approach with basic science correlation. St. Louis, Mosby, 1969. 415 p. illus. \$18.15

STEELE, P. F. Dental specialties for the dental hygienist. Philadelphia, Lea & Febiger, 1969. 337 p. illus. \$12.50

STOUT, W. C. The first one hundred years; a history of dentistry in Texas. Dallas, Texas, Texas Dental Association, 1969. 451 p. illus. \$15.00

THOMA, K. H. Oral surgery. Two vols. Ed 5. St. Louis Mosby, 1969. 1264 p plus indices. illus. \$74.25

US CANCER CONTROL PROGRAM. Oral care for oral cancer patients; report of a conference held in Chicago, Illinois, June 1968. PHS No 1958. Washington, Govt Print Office, 1969. 67 p. \$0.40

WOLFSON, E. Dentist's factomatic; a practical guide for efficient office management. Toronto, Prentice-Hall, Inc, 1969. 258 p. \$35.95

YEAR BOOK OF ANESTHESIA, 1969. Chicago, Year Book Medical Publishers, 1969. 392 p. illus. \$12.10

ZEGARELLI, E. V., KUTSCHER, A. H. and HYMAN, G. A. Diagnosis of the mouth and jaws. Philadelphia, Lea & Febiger, 1969. 583 p. illus. \$38.50

The tax reform proposals

Finance Minister Edgar Benson has let it be known that he may be willing to reconsider some of the problem areas that have emerged from the government tax white paper. Though his opening testimony before the Commons' finance committee was unilluminating, he has promised to revise three of his tax proposals. Included among these is the one about taxing professionals for their accounts receivable and unbilled services. For dentists, this is without doubt one of the most unpalatable portions of the entire tax package.

Most merchants compute their taxable income on an accrual basis. This means that a merchant takes into account the inventory of goods he has on hand, the accounts due to him from his customers, and the amounts he owes to his suppliers.

Taxpayers in the professions have been exempted from this rule for many years. They could choose to report their income either on the accrual basis or the cash basis — that is, they could omit the amounts due them from their clients and their "inventory" of unbilled time.

Most professionals opted for the cash method and Mr. Benson has argued that the resultant tax postponement gave them an unfair advantage over other taxpayers. Consequently, the white paper proposed to eliminate tax deferral by taxing professionals as they billed for income rather than as they received it.

But Mr. Benson creates a whole new set of headaches by lumping physicians and the dentists together with the merchants. How, for example, can a dentist calculate in advance the cost of a service which his patient may never need? And how can an obstetrician assess the value of his professional service during various stages of a confinement? The net effect of the white paper is to encourage professionals to defer billing and Mr. Benson is now reportedly grappling with the problem of how to prevent physicians and dentists performing their services and then holding back their accounts, thereby deferring the incidence of tax.

Another significant proposal is the intention to cut

out tax deductions for the cost of attending conventions. Mr. Benson views this as a form of expense account living, not as an enriching educational experience for practitioners who are relatively isolated for the rest of the year. In this he runs counter to the Carter Commission which recommended that expenses be deductible from salaries, wages or business income provided they are "reasonably related to the earning of the income." But the finance minister will not accord this privilege to salaried employees. He contends, moreover, that any other system of claims for expenses will produce an impossible processing task in tax administration.

But Mr. Benson distorts the real purpose and meaning of scientific conventions by pursuing this line of argument. And he compounds his error by promoting a tax concept which caters to the convenience of his officials but denies the legitimate needs of taxpayers.

Elsewhere in the white paper, Mr. Benson proposes to withdraw tax exemption from fellowships, scholarships, bursaries and research grants. He maintains these should be part of income. He regards post-graduate students and research workers in the same light as professional workers; they should pay tax as others, after allowance for tuition fees and for research expenses properly deductible from research grants. This principle seems valid provided Mr. Benson will distinguish clearly between funds advanced for education and training and money paid in support of career research, and provided he permits students to deduct allowances paid for living away from home.

These questions will no doubt receive an airing when the Commons' finance committee considers the Canadian Dental Association's brief on Mr. Benson's tax proposals. By that time, Mr. Benson may even suggest alternatives. But the alternatives could be tougher as well as easier. In any event, it is going to take some very serious persuasion to convince the government that it should shift its position.

Le livre blanc sur la réforme fiscale

Le ministre des Finances, M. Edgar Benson a fait savoir qu'il serait prêt à reviser certaines parties du Livre blanc sur la réforme fiscale. Bien que le témoignage qu'il a donné devant le comité des finances de la Chambre des Communes n'a pas vraiment éclairci le problème, il a promis de revenir sur trois mesures qu'il avait proposées, y compris celle qui taxerait les dettes actives des hommes de profession. Ce dernier règlement est celui qui paraît le plus désagréable aux dentistes.

A l'heure actuelle, le commerçant calcule son revenu imposable d'après le système de comptabilité d'exercice. Ceci veut dire qu'il doit tenir compte de l'inventaire des marchandises, des dettes passives qui lui sont dues par ses clients, et de l'argent qu'il doit à ses fournisseurs.

Depuis plusieurs années les contribuables qui font partie d'une profession ont toujours été dispensés de ce règlement. Ils pouvaient choisir de déclarer leur revenu d'après le système de comptabilité d'exercice ou d'après l'argent encaissé, c'est-à-dire qu'ils pouvaient omettre les sommes qui leur étaient dues par leurs clients et l'"inventaire" du temps non facturé.

La plupart des hommes de profession ont généralement choisi de faire leur déclaration d'impôt selon la méthode de l'argent encaissé et M. Benson a prétendu que le délai leur donnait un avantage injuste sur les autres contribuables. En conséquence, le Livre blanc proposait d'éliminer cette façon de retarder le paiement des impôts en taxant les professions selon les honoraires facturés plutôt que d'après les sommes encaissées.

En jetant tout le monde dans le même poêlon M. Benson donne naissance toutefois à une batterie de nouveaux problèmes. Comment le dentiste peut-il calculer à l'avance le coût d'un service dont le patient n'aura peut-être jamais besoin? Et comment un gynécologue peut-il estimer la valeur de ses services professionnels au cours des différents stades d'une grossesse? Le Livre blanc aura le résultat d'encourager les professionnels à retarder leur demande d'honoraires et on dit que M. Benson est déjà en train de s'attaquer au problème qui existerait si les dentistes et les médecins donneraient leurs soins et retiendraient ensuite

l'envoi des honoraires afin de retarder ainsi l'incidence de l'impôt.

Par une autre proposition M. Benson veut éliminer la déduction pour la participation aux congrès. Le ministre considère que ceci constitue une façon de profiter des frais professionnels et non pas une expérience pédagogique enrichissante pour le praticien qui se trouve relativement isolé durant le courant de l'année. Il va donc à l'encontre de la Commission Carter qui avait recommandé que les dépenses soient déduites des salaires et du revenu des affaires tant qu'ils aient "un rapport raisonnable avec le gain du revenu". Mais le ministre des Finances n'a pas l'intention d'accorder ce privilège aux employés salariés. De plus, il soutient que tout autre système de réclamation de dépenses créera de très grandes difficultés dans l'administration des impôts.

Mais le raisonnement de M. Benson fausse le but véritable des congrès scientifiques tandis que sa conception des impôts pourvoit à la convenance des employés du ministère mais frustre les besoins légitimes des contribuables.

Ailleurs dans le Livre blanc, M. Benson propose d'éliminer l'exemption d'impôts qui existe pour les bourses et les octrois de recherches. Il prétend que ceux-ci devraient faire partie du revenu et considère que les étudiants qui font des études post-universitaires et ceux qui font de la recherche devraient payer les mêmes impôts que les ouvriers professionnels, après déduction des frais d'instruction et des dépenses de recherche. Ce principe est valable pourvu que M. Benson fasse la distinction entre les sommes déboursées pour les études et les sommes payées pour appuyer la recherche de carrière, et pourvu qu'il permette aux étudiants de déduire une allocation lorsqu'ils ne peuvent pas habiter chez eux.

Toutes ces questions seront étudiées au comité des finances de la Chambre des Communes lorsque l'Association Dentaire Canadienne présentera un mémoire sur les propositions fiscales de M. Benson. D'ici là M. Benson aura peut-être suggéré d'autres choix. Mais ses contre-propositions pourraient être aussi plus difficiles que les premières. En tout cas, il sera très dur de convaincre le gouvernement de changer sa position.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Western Ontario's dental ladies

Both faculty and students at the University of Western Ontario are noted, far and wide, for their aesthetic discernment in selecting wives. While unequivocally agreeing with your caption (January 1970, page 17) that the ladies depicted are indeed attractive, they are, with two exceptions, wives of dental students. Mrs. O. H. Warwick is the wife of the university's vice-president (Health Sciences) and that most attractive lady at the upper left corner lives with me. The remainder is the prettiest PHT (Putting Hubby Through) group you'll find anywhere!

W. J. Dunn, DDS
Dean, Faculty of Dentistry
University of Western Ontario
London, Ont

The red-faced editor wishes he could make amends to each lady in person. In looks and accomplishments, Western's dental wives undoubtedly set a new standard that may be hard to emulate. (Ed)

Mandibular deformities

Congratulations to Doctor Smylski for his most concise, comprehensive article on "Surgical Management of Mandibular Deformities" (December Journal). There is nothing to add but I would like to emphasize several points:

1. These corrective operations can be done at any age if need exists. This is particularly important for patients who are unable to wear dentures in the future because of insufficient space in the maxillary tuberosity-mandibular retromolar region. This, of course, applies to those who are already edentulous or with ridge asymmetry of any sort.

2. The procedures have been carefully developed and thoroughly tested; they are no longer semi-experimental.

3. The combination of available methods permits us to solve almost any jaw deformity.

4. The patients experience surprisingly little discomfort. This fact, together with the predictability of the result, makes the operation available to almost anyone.

E. W. P. Luxford, DDS, MS, FRCD(C)
628-12th Ave SW
Calgary 3, Alta

School dental inspection in Victoria

I would like to congratulate Dr. Parfitt on his 1967-68 results (January Journal). On reading the article the following points come to mind:

1. Do the local dentists utilize recall systems and, if so, how many of the sample were on a dentist's recall list anyway?

2. What was the deadline for receipt of cards from the dentists?

3. What amount of professional time is spent on doing inspections?

4. What percentage of parents accept the invitations to attend during the inspections?

5. Were the various methods carried out during one specific period or at different times?

Generally speaking, I personally tend to agree with the Section of Dental Health, Minnesota Department of Health, which contends:

1. "That inasmuch as over 90 of all school children need some dental work done each year; therefore, it is an uneconomical use of dentists' time to have them examine children in schools in order to determine which ones need dental care.

2. "The dentist has access to proper diagnostic aids, including x-ray and lighting in a dental office.

3. "Examinations in the dental office save time for both child and dentist, because when dental work is needed, it can often be done immediately following the examination in the dental office. Even if a child's mouth has previously been examined in school, it must be re-examined by the time he gets to a dental office."

I note that, with the exception of the kindergarten group, others in the sam-

ple would ordinarily have had previous "inspection referrals." For the Grade 1 children in the sample this would presumably be the third time; for the Grade 2 children the fifth time; for the Grade 3 children the seventh time; for the Grade 4 children the ninth time; and for the Grade 5 children the tenth time.

I realize, of course, that some of the sample could be children who have transferred from other school systems.

I wonder to what extent these considerations affected the actions of the children and the parents.

T. M. Curry, DDS, DDPH
Director, Dental Health Division
Saskatchewan Department of Public Health
Regina, Sask

Malpractice hazards

The special report on "Rising US Malpractice Awards . . ." (January Journal) is a timely and gentle reminder. Dentists in Canada have been comparatively free of malpractice claims to date, but this does not ensure that this state will continue indefinitely. The ease of communication between the United States and Canada, along with the increasing number of news items that publicize the large awards for damages by American courts, makes it very tempting to a dental patient who may feel that an easy way to quick wealth is at hand.

Doctor Levinson's list of precautions is comprehensive and worthy of review by every practitioner at regular intervals. One other item should be added to that list: radiographs should be, but are not necessarily always, susceptible to interpretation. If radiographs are utilized for diagnostic purposes, it is imperative that they be sufficiently lucid, taken from the appropriate angle and cover enough of the field that, to a third party or to a court of law, a correct diagnosis would be possible. Many diagnostic radiographs lack sufficient definition and could seriously jeopardize a liability case if no diagnosis could be made from them. Radiographs should be repeated when they are improperly exposed or taken from an angle that precludes a proper diagnosis.

Only by avoiding any actions that may incite litigation can we maintain

our present rate of liability claims to a minimum.

G. E. Decker, DDS
Executive Director, Alberta Dental Association
9901-108 Street
Edmonton 14, Alta

Pin-retained amalgam restorations

The article by Doctors Watson and Gilmore in the January issue is an excellent, short, concise review of the literature pertaining to pin-retained amalgam restorations. I have three criticisms, however:

1. Some instruction regarding the number of pins to be placed would have been helpful to the general practitioner. I say this because too many pins are used more often than not. Recently, I saw a molar crown which had cracked off; it had 11 pins!

2. Possibly, the authors could have elaborated about the indications and contra-indications of pins and about each type of pin.

3. In one of their conclusions, the authors state that "pin depths beyond 2 mm in dentine are not advantageous." Elsewhere, however, they point out that "the optimum depth for cemented pins seems to be 3 mm." This exception should have been restated under the conclusions.

G. H. Gibb, BSc, DDS
Faculty of Dentistry
University of Alberta
Edmonton 7, Alta

Ontario Science Centre

On behalf of the Ontario Science Centre Dental Exhibit Committee, I would like to thank you for the excellent coverage given to the project in the January issue of the CDA Journal. I would also like to express sincere thanks to Doctor Marcel Hébert of Montreal for his kind remarks.

I must, however, point out that the following members of the committee were fully responsible for the entire exhibit: Doctors J. G. Dale, R. C. Burgess, J. H. Johnson, M. C. Johnston and A. T. Storey. Thanks should also go to Doctor Sigmund Socransky of the Forsyth Research Centre in Boston for his kind assistance. In addition, the earnest and sincere efforts of our hard-working secretary, Doctor Kenneth Pownall, helped to make the project a success.

In closing, I should say that my role was merely one of promotion and fund raising to cover the cost of the project.

S. A. MacGregor, DDS
Chairman
Ontario Science Centre Dental Exhibit Committee

Reactions to the new format

Reader response to the new format of the Journal has been generally favourable, as shown by the following sampling of letters:

Congratulations on the new format of the Canadian Dental Association Journal! After reading it through I have found it more interesting, more informative and possessing more scope. This redesigned publication has great possibilities. My compliments to you!

E. R. Ambrose, DDS
Faculty of Dentistry
McGill University
Montreal 109, Que

I would very much like to congratulate you and your staff upon the very nice work that you have done in the last issue of the Canadian Dental Association Journal.

The format and its content are very likely to please everyone and I think that the short articles and the notes that are included in this issue should be continued because they reflect opinions of a variety of people in our profession all through Canada.

I am also very pleased to notice that fluoridation has an extensive part in the Journal and I think that, more and more, there should be articles inciting the dentists to try to get fluoridation of their community waters as soon as possible.

Guy Maranda, DDS
565 rue St-Jean
Québec 4, Qué

The new flimsy journal is doing its share toward inflation. The January issue contained 5.5 per cent of waste space. If there is nothing to use in this space, why increase the size of the page? Don't we buy by the ton? The bigger the advertising print, the bigger the chance of a sale? I doubt it. Surely we are not blind.

K. A. Hetherington, DDS
98 York St
Fredericton, NB

Doctor Hetherington measured total white area in the January issue. Some space is necessary, however, to display illustrations and accommodate department and article heads to full advantage. Additional space results from separation of English and French text. The Journal's new format reflects the page size now used by most major North American dental publications. As a result, our advertisers will no longer have to divert part of their advertising budget into making special plates to fit the CDA Journal. (Ed)

As you have said so well in your editorial, the new look of the CDA Journal

will be "the start of something big."

I am impressed with the new size, format and style of your Journal and wish to send my compliments to you and your staff. It was hard to see how your former publication could be improved, but you have done just that; and I look forward to seeing future volumes as they roll off the press.

C. Gordon Watson, DDS
Executive Director
American Dental Association
Chicago, Ill

Congratulations on the first issue of your redesigned Journal. It is very attractive and I like the new approach in the contents. It should serve your profession well.

Velma M. Child, Secretary
Council on Journalism
American Dental Association

FDI glossary of scientific terms

At the October 1969 meeting of the Fédération Dentaire Internationale in New York, its Commission on Dental Research discussed the possibility of producing a short simplified glossary of scientific terms, designed essentially as a reference booklet for use in the better understanding of scientific articles in journals. A working group has been set up for this purpose.

The concept is by no means new, but it is felt that enjoyment of an article can be interrupted by an abbreviation, a series of initials, or the name of a test, with any of which the reader is not familiar, or which he does not recognize in the form presented.

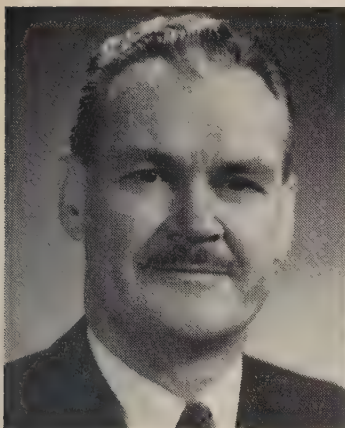
No one can keep abreast of every branch of dentistry, and what may be a routine test or measurement to an orthodontist, for example, may be a completely blank area to an oral surgeon who is nevertheless most interested in the article. Similar examples could be quoted for the general practitioner.

The proposed glossary would contain a limited number of terms and tests and synonyms defined very briefly and giving, in the case of tests, an outline of the type of test or an indication of how it is carried out, what it proves, and numerical values where applicable. The purpose is to enable understanding of a test.

May I ask your readers whether such a glossary would meet a need and, if so, whether they will help by sending to the undersigned examples of such terms which they have noted, with (preferably) or without definitions.

Adrian Cowan, Chairman
Working Group
FDI Commission on Dental Research
19 Harcourt St, Dublin 2, Ireland

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

The "Executive Director's Page" appears for the first time in this issue of the Journal. In it, Doctor McIntosh reports on the major issues that have engaged his attention during the past month.

Canada's Prices and Incomes Commission is working actively to promote price restraints, and the tempo of their work has picked up since the National Conference on Price Stability in Ottawa February 9-10.

At the request of the Commission, the Canadian Dental Association sent representatives to that meeting. President-elect W. J. Spence and I attended, and we participated in both general discussions and in workshop sessions held by the professional section of the Conference.

The CDA's Executive Council will have received and considered, by the time this issue of the Journal has been released, the resolution from the Conference asking support for a hold-the-line position on fee schedules in 1970.

It was evident at the meeting that there was general agreement among professional groups to endorse the idea of maintaining present fee schedules for the balance of the year. Specifically, the meeting's closing statement declared that "professions would be prepared to participate in a broad program of price restraints and to recommend to the provincial associations that they postpone or limit increases in existing fee schedules for professional services during 1970."

We met and talked with many professional people, business men and cabinet ministers during the Conference. Our main impression was that people in business generally will be making a serious effort to hold down price increases and that the labour organizations will now be faced with a climate of public opinion that should encourage them to cooperate in this endeavour.

It is always rewarding to see our Association obtain fresh recognition in the professional and scientific community.

I was in Ottawa with Doctor Spence in January in response to an invitation to take part in the establishment of SCITEC, a new organization dedicated to providing a common voice for all the scientific

and technical groups in Canada. SCITEC (a contraction of science and technology) will be made up of more than 60 national organizations with a membership in excess of 150,000.

For us the highlight of the founding session was the invitation to the Canadian Dental Association to accept a seat on the 29-member council which will direct the new organization.

The Executive Council, at its meeting February 23-26, will be asked to name a representative from the CDA to sit on the council.

If SCITEC is to become a strong, forward-looking and progressive voice on national issues affecting the welfare of all Canadians, we will certainly all wish to support it. The professional and scientific community is becoming increasingly concerned with the "quality of life" of our society. So it should.

I had to leave Ottawa before the SCITEC founding convention was over, to go to Halifax to meet with a group of our members concerning a forthcoming private member's bill in the Nova Scotia legislature. The bill would give dental mechanics the legal right of dealing directly with the public. The Nova Scotia Dental Association has taken a well-thought-out position on the bill. This is a critical matter for both our profession and our patients, and it is reassuring to know that dentistry's views will be ably presented.

We've made representation to Finance Minister Benson on a matter of very real importance to all dentists — the fact that sales tax still applies to articulators when purchased by a dentist.

Articulators are now free of sales tax when purchased by a technician, and we've asked the minister to apply to articulators a ruling of the Tariff Board which exempted imported Di-Lok trays from sales tax. If this were done, articulators would become free of sales tax.

Our letter to the minister pointed out that "the fact that most dental instruments and materials are free of tariff and sales tax appears to establish the principle that the Government of Canada is anxious to do all it can to make high quality dental services as accessible as possible to the people of Canada." We hope to have word of a decision for you soon.

Ottawa is seeking converts to its hold-the-line policy on wages and prices. The Canadian Medical Association joined the team January 16 by urging its members to practise voluntary restraint. On February 9 and 10, CDA Executive Director W. G. McIntosh attended a conference between the Prices and Incomes Commission and top executives of Canadian business and professional organizations. That meeting was called to encourage restraint in all sectors of the economy before costs spiral out of sight. To gauge reaction in the dental profession, the Journal asked Doctor C. G. Halliday, president of the Saskatchewan College of Dental Surgeons, and Doctor D. H. Jenkins, a Toronto orthodontist, "Should the Canadian Dental Association take a stand parallel to that of the Canadian Medical Association?" Their answers appear below.

Voluntary restraint on dental fees? Yes, but...

I have a strong feeling that as Canadians with a very definite interest in the welfare of our fellow citizens and in the affairs of the country as a whole we are bound to do anything within our means to assist in any measures which benefit the community and the nation.

Nevertheless, I still find it possible to state that I see no reason, at the present time, for the Canadian Dental Association to make any statement concerning a hold-the-line policy in respect to fees. If, however, there were a request from the federal government for such a policy, my views would be reversed.

The effect that a request, originating at the Canadian Dental Association level, would have on the provincial bodies would probably be somewhat minimal in any case.

There is at present some pressure in the "dental have-not provinces" for fee parity across the nation. To ask a group whose fees are at a satisfactory level to hold the line would probably meet with some success. But other groups or areas that consider their fees to be low might be averse to such restraints.

Additional aspects to consider are the attitudes of auxiliary personnel and others who have relations with the profession. If dentists were to cooperate in this respect, we would require the support of the dental laboratories, the dental supply houses and the dental equipment manufacturers. We should not be faced with ever increasing prices in these fields.

There is also the problem of the spiralling demands of the labour force. Will these be controlled? If not, our costs will continue to rise. Are we then expected to maintain present fees at the present level?

I would be interested to know if the financial experts, who are available to the Canadian Dental Association, feel that a hold-the-line policy is necessary from the profession at this time. I am certainly not an expert in this field. Like any other citizen, I reserve the right to wonder if the political powers are "crying wolf" or using inflation for a political football. It never ceases to amaze me how readily we become involved in matters like these, yet how seldom our assistance is sought in such matters as the preparation or implementation of such articles as Mr. Benson's white paper on tax reform. How much weight will Ottawa's financial experts give to the numerous briefs on this topic prepared by all segments of the population?

C. G. Halliday, DDS
200 MacMillan Bldg
Saskatoon, Sask

Voluntary medical fee restraint to help curb inflation

Once upon a time there was a CDA of fine police dogs—one for each province except Ontario, which had one fine young goose for its representative. The police dogs cared for law and order; the goose cared for social organization.

They were all beautiful specimens but they did not always agree in their discussions—for example, on a matter of diet. So the goose was very lonely, particularly when she noted that the other professional associations, like the Canadian Medical Association, were composed entirely of geese.

The Canadian Medical Association reported a conference between its Executive Committee and the Hon. John Munro in its news communiqué of January 16, 1970: "Our Executive Committee is sympathetic to the attempts of the federal government to promote restraint in all segments of the economy. This must include the medical profession."

This was interpreted in a letter I received from the CDA editor January 21, and in the *Governors Letter* of February 10: "The Canadian Medical Association on January 16 asked its 21,000 members across Canada not to raise their professional fees during Ottawa's fight against inflation."

This is a strange interpretation, for the CMA wisely relates its fees to the rest of the economy, whereas the CDA statement refers to fixed fees divorced from the rest of the economy. This CDA interpretation may be the CDA policy but it certainly is not the CMA's policy. The flaw in the lore of our news editor (in the language of law) is a non sequitur.



It has been my experience that only a representative association such as the CMA can accept responsibility for its policies. This stems from its nature since the CMA is a representative association and its function is to develop a consensus from the opinions of its provincial medical associations. Conversely, the CDA is composed mainly of quasi-governmental organs which issue directives from a non-consensus-minded executive. These directives are out of context, for health is a provincial responsibility.

Our best aim in dentistry in Canada therefore may be to develop a representative CDA. Such a representative CDA can usefully be invited to and can usefully attend a conference similar to the one in which the CMA participated.

In this instance the CDA was not invited to this conference and can therefore take no stand. However, we may plan to be invited in the future, when we achieve the form of a representative national association.

We may conclude that a national association of the representative type may legitimately research and arrive at consensus in three vital areas: (1) the profession's role in society, (2) the social climate needed for that role, and (3) the professional climate needed for that role.

This function is outside the scope of government

organs as was clearly brought home to us in Great Britain. However, it lies within the scope of a representative association, as the CMA experience indicates.

One fine day, if she is not dismembered for her golden eggs, our Ontario goose may have company from the other provinces. Then all the Canadian geese and the police dogs will live happily ever after in their respective houses—our police dogs in the guard house where their function is to protect the public from bandits; our geese in the world of creativity, for they have wings.

D. H. Jenkins, DDS, BDS, MScD, Dip Orth
286 York Mills Rd
Willowdale 431, Ont

The CMA's news release also said: "The Canadian Medical Association will urge its members to practise voluntary fee restraint to help curb inflation." An article in a subsequent issue of the CMA Journal reiterates this stand with the following words: "CMA asks for freeze at 1969 level of fees." The CDA Governors Letter and other correspondence mentioned by Doctor Jenkins reported but made no attempt to "interpret" these actions in any way. (Ed)

SCITEC: Canada's new national voice of science



N. S. Grace

A new national organization whose aim is to speak for the Canadian scientific and technical community on national issues was established in Ottawa January 17.

Its membership includes representatives of science, dentistry, medicine, engineering, the social sciences and technology from both English and French Canada. Interested laymen have also been invited to join.

The organization, to be known as SCITEC (a contraction of Science-Technology Canada), had its origins in a meeting of the Senate Special Committee on Science Policy, when a senator, confused by the many conflicting submissions he had heard, asked who spoke for Canadian science as a whole.

The Canadian Association of Physicists, the Chemical Institute of Canada and the Engineering Institute of Canada, whose memberships total more than 25,000, then co-sponsored a national meeting of Canada's national science, engineering and technical societies last July to see if such an organization could be formed. It was formed at the second such conference held in Ottawa January 16-17. Attending both meetings were the Canadian Dental Association's president-elect, W. J. Spence, and executive director, W. G. McIntosh.

The new organization has the complete cooperation of its francophone equivalent — l'Association Canadienne-Française pour l'Avancement des Sciences — which was formed 46 years ago. Not only has ACFAS joined SCITEC; it has offered \$1,000 for a starting fund and its own secretariat either temporarily or permanently.

President of the new organization is Norman S. Grace, who is president of the Chemical Institute of Canada and general manager of the Dunlop Research Centre at Sheridan Park, Ontario.

Vice-presidents elected were Louis Berlinguet, of Quebec, president of ACFAS; and E. D. Betts, Edmon-

ton, president of the Canadian Association of Physicists. J. B. Armstrong, executive director of the Canadian Heart Foundation, was named honorary treasurer. The Canadian Dental Association has also been offered a seat on SCITEC's 29-man council.

A youth-in-science committee was also appointed by SCITEC, composed of David Rogers, University of Toronto graduate student; M. J. Yedlin, University of Alberta undergraduate; and Jean-Marc Rousseau, Université de Montréal student who is vice-president of Jeunesse Scientifique Inc, the youth division of ACFAS.

One of the purposes of SCITEC, officials said, is to advise government on scientific and technological matters of national importance, representing the public interest. SCITEC, they noted, is not a creature of government like the Science Council of Canada (the federal government's official but independent science advisory body). Omond Solandt, chairman of the Science Council of Canada, said his council is strongly in favour of the formation of SCITEC.

SCITEC's founding motion says its objective "is to marshal the scientific and technological community to provide leadership, to communicate, cooperate and work within itself, with government and the public in the national interest."

The national interest was described as the overriding concern of the society in a report of a discussion group on objectives. It also said it is necessary to reduce the knowledge gap between the scientist and the public, and that it will be important for SCITEC to preserve its credibility by prudent consideration of such activities as acceptance of money by lobbying groups.

The group dealing with communications recommended that SCITEC act as the principal vehicle of communication to the scientific and technical community, and stimulate and expand informed writing and broadcasting on scientific affairs by all communications media in Canada.

It recommended that the individual scientist be encouraged to put his views before a wider audience and the public.

Improved public credibility of the nature and activities of scientists and technologists was recommended in another report.

WINNIPEG

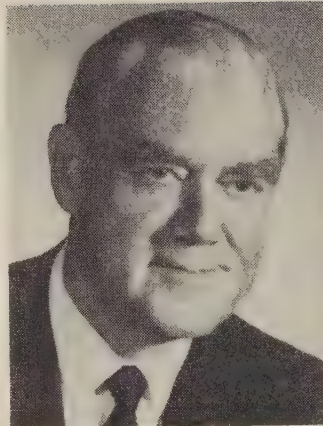
A black and white photograph of the Manitoba Legislative Building in Winnipeg. The image shows the large, ornate dome topped with a statue, and the classical portico with columns and a pediment featuring sculptural reliefs. A tall flagpole is visible to the right of the building.

National Convention
Canadian Dental Association
July 1-4, 1970

Congrès National
l'Association Dentaire Canadienne
les 1, 2, 3 et 4 juillet 1970

Presidents' Greetings

Richardson Square, at the corner of Portage and Main Streets.



H. R. MacLean



A. J. Shinoff

I am happy to extend to you a cordial invitation to attend the Canadian Dental Association National Convention in Winnipeg in July. The hospitality of Manitobans is well known and the greatest. When you add to this international clinicians, social events and exhibits, we have a meeting that no one can afford to miss.

Doctor J. P. Beattie, his committee and the Manitoba Dental Association have worked very hard to present an outstanding program. We look forward to seeing you in Winnipeg.

*H. R. MacLean, President
Canadian Dental Association*

It is my privilege on behalf on Dentistry in Manitoba to extend a warm invitation to all my fellow dentists to come and participate with us in the celebration of Manitoba's centennial year.

Because we are the geographic centre of Canada it will be an opportunity for those from East, West, North and South to renew acquaintances once again with colleagues of the distant past.

At the same time we offer you a truly worthwhile convention, the culmination of many months of work by most of our members.

I say with all modesty that our greatest natural resource is Manitoba hospitality and this we extend to you wholeheartedly. So please come and bring your family and do plan to say awhile.

*A. J. Shinoff, President
Manitoba Dental Association*

General Information

Board of Governors Meeting

The annual meeting of the Board of Governors of the Canadian Dental Association will be held at the Fort Garry Hotel, Winnipeg, June 29-July 1. The meeting is open to all members of the Association.

National Convention

The national convention of the Canadian Dental Association begins on Wednesday evening, July 1 and continues through Saturday, July 4. The convention will be held in the Centennial Centre.

Advance Registration

The advance registration form in this issue of the Journal will also be included with other publicity material. Early registration is strongly recommended as accommodation is limited and rooms will only be allocated after receipt of the completed registration form and registration fee. Advance registrants are eligible to participate in a draw for a free car available to the lucky winner for the duration of the convention.

Accommodation

Because of Manitoba's centennial celebration and other holiday attractions, hotel and motel rooms will be in great demand during the convention period in Winnipeg. Adequate space has been reserved in downtown and suburban hotels and motels; its retention is, however, contingent on the receipt of early confirmations.

All room allocations will be made by the convention committee following receipt of the completed registration form and fee. Please indicate on the registration form whether you are attending the Board of Governors meeting, belong to a specialty section, or any other specific accommodation requests. Early advance registration will ensure the best accommodation suited to your requirements.

Registration Area

The registration area at the Centennial Centre will be open from 2:00 to 8:00 pm Wednesday, July 1; and from 8:00 am to 4:30 pm Thursday and Friday, July 2-3.

Commercial Exhibits

An exceptionally spacious exhibit area ensures easy access to the wide assortment of dental items presented for your inspection. Specific periods have been

reserved to permit delegates to visit these exhibits: Wednesday, July 1, 6:00—8:00 pm; Thursday and Friday, July 2-3, 8:45 am to 4:45 pm; Saturday, July 4, 8:45 am to 12:00 noon.

Luncheons

The three luncheons will be served in the Centennial Centre. The cost is included with the registration fee. All luncheons are completely informal; there are no ceremonies or speeches to interfere with your relaxation.

Bus Transportation

A special bus service will operate daily, July 2-4, between the major hotels and motels and the Centennial Centre. Buses will call for delegates between 8:30 and 9:00 am and will return from the Centennial Centre between 4:30 and 5:00 pm. Buses will also pick up delegates at hotels and motels on Thursday evening, July 2, about half an hour before the reception to the President's ball; also on Saturday evening, July 4, about half an hour before the "Wind-Up Party" at the Highlander Curling Club.

Other Meetings

Alpha Omega Fraternity

Centennial Centre, July 3, 12:00—2:00 pm, reception and luncheon in honour of the international president, Doctor Barnet Frank. Harry Tregobov, 566 Osborne St, Winnipeg.

International College of Dentists

Fort Garry Hotel, June 30, 6:30 pm, annual dinner. W. J. Riley, 505 Medical Arts Bldg, Winnipeg 1, Man.

Royal College of Dentists of Canada

Centennial Centre, July 4, convocation in the morning; luncheon; afternoon business meeting. J. W. Neilson, 780 Bannatyne Ave, Winnipeg 3, Man.

Royal Canadian Dental Corps

Centennial Centre, July 3, 4:30-5:30 pm, open reunion and reception. J. M. Snidal, 435 Academy Rd, Winnipeg 9, Man.

University of Manitoba Dental Alumni

Centennial Centre, July 3, business meeting and luncheon: evening reception followed by boat cruise and dancing. S. L. Gorenstein, 119 Regent Ave, Winnipeg 25, Man.

Social events

The keynote of this convention is western hospitality with new and "different" social events that depart from the customary time and format of previous conventions.

Registration Party

Wednesday, July 1, 7:00—11:00 pm — a "smash" opening to a fun convention. Come early to enjoy wine and cheese tables plus a buffet followed by one hour of variety entertainment in the luxurious Centennial Hall.

President's Ball

Thursday, July 2, 6:30—1:00 am — This year attend the premiere social event while you are still fresh and ready for a big evening. This is an optional dress dinner dance, with an outstanding menu, good music and plenty of room to dance, all at a reasonable cost. The Jimmy Dorsey Orchestra, starring Lee Castle, will be the feature attraction.

Open Night

Friday, July 3 — You are free to do as you please. Meet classmates, attend the races or the Rainbow Stage. If you wish to organize a class reunion, please notify the convention office (308 Kennedy St, Winnipeg 2, Man.) as soon as possible.

Survivors' Night

Saturday, July 4 — Surviving Easterners and British Columbians who are still in shape are invited to join the Prairie people at a real Western Wind-Up Party. Your registration fee includes tickets for this event; so why not plan to stay and enjoy it?

Ladies' Entertainment

Events for the ladies begin in Winnipeg's famous Centennial Centre on Wednesday, July 1 with registration, followed by a wine and cheese party 7:30-9:00 pm and entertainment in the new Concert Hall.

A ladies' luncheon and fashion show will be held in the beautiful Rosh Pina Synagogue on Thursday, followed by a period fashion show. Later that evening there is a reception at 7:00 pm preceding the President's Ball — a gala evening of gourmet dining and dancing to the music of a "big band" at the Winnipeg Civic Auditorium.

A coffee party at Government House 11:00—12:00 noon, and a visit to historic Fort Garry on the Red River at 12:30 pm are the star attractions on Friday. Later that evening the ladies may attend Manisphere at 8:00 pm to witness a special show presented by the Royal Canadian Mounted Police.

A ladies' brunch will be served at the Fort Garry Hotel at 11:00 am on Saturday morning, followed by entertainment. Later that evening, at 8:00 pm, relax at the wind-up Barbecue Party with fun for all at the Highlander Curling Club.

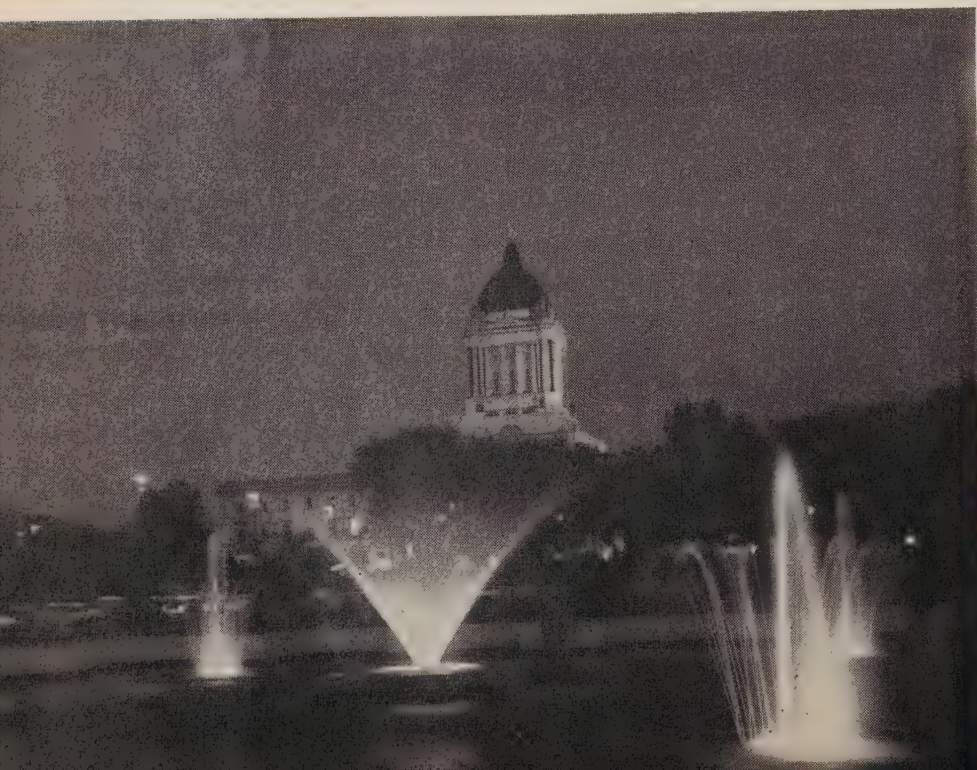
The ladies' convention fee of \$15 includes all ladies' activities — lunch, brunch, tour and wind-up party. Bus transportation will be provided for all occasions. Register early and join the fun.

Family Vacations

This may be the last year for a family trip scheduled around the CDA convention. We will be happy to help you make your plans.

Manitoba, "the centre of the Continent," invites you to consider centennial celebrations including the Queen's visit, a boat trip to Norway House, a train trip to Churchill, rodeos and stampedes, fabulous fishing (fly-in or drive-in camps), resort beach areas, city entertainment (Manisphere, races, golf).

When you send your advance registration form let us know what you would like to do.



Fountains in Memorial Park frame the Manitoba Legislature topped by its "Golden Boy."

Winnipeg

Winnipeg, capital of the province of Manitoba, is situated at the confluence of the Red and Assiniboine Rivers, almost mid-way between the Atlantic and Pacific oceans.

From an insignificant Hudson's Bay Company trading post (Fort Garry) in 1770, with a population of 215, Winnipeg has grown to the size and finish of a first-class city of approximately 254,000 people. When the city was incorporated in 1873 there were 1,869 inhabitants. By 1878 steam railway connection from St. Paul, Minn, had reached a point just across the river from Winnipeg; and on July 1, 1886, the first through railway train, which left Montreal on June 28, 1886, arrived in Winnipeg. The advent of railway connections started a steady stream of travel and trade together with an influx of population which resulted in the building up of a city of a standing and importance that is exceeded by few cities in Canada.

Winnipeg has become the greatest grain centre on the North American continent, and the financial, commercial, wholesale and manufacturing centre of the Canadian middle west. The single most important aspect of Winnipeg's manufacturing is its great diversity; the variety of products made in the city is greater than in any comparable Canadian city.

Equally attractive are the city's many shopping areas which offer visitors a wide variety of quality merchandise, comfortable and spacious stores and ample parking space. Tourists are particularly attracted by the china, furs and woollen goods available.

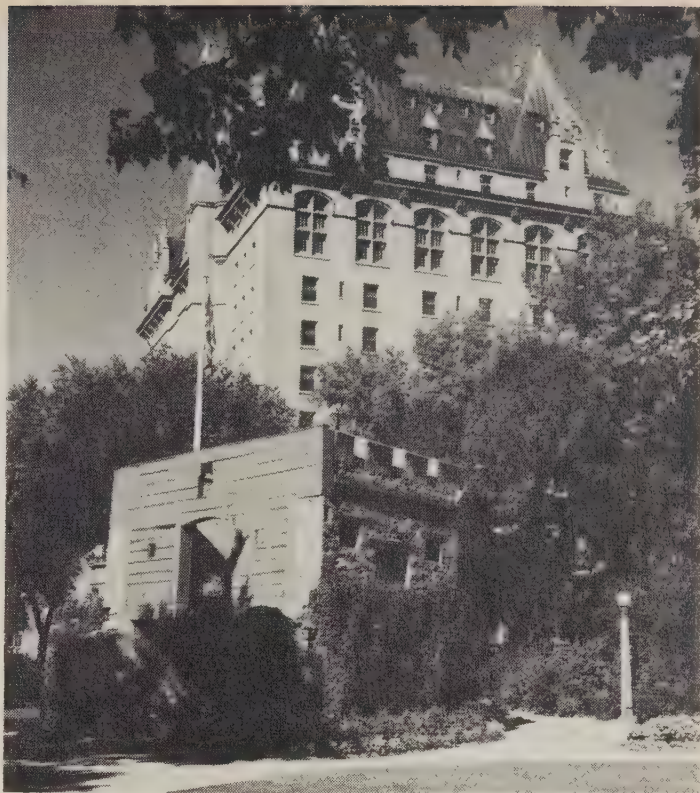
Winnipeg is also one of the outstanding cultural centres on the continent. Its theatre is among the top five in North America and has staged world and Canadian premieres. The Royal Winnipeg Ballet is one of four ballet companies in the world to receive royal patronage. The Winnipeg Symphony Orchestra performs about 60 concerts during the year. Its Celebrity Concert Series brings many of the world's leading artists to the city. Summer theatre provides four musicals a year for Winnipeg's large theatre-going public. The many ethnic groups in the city also excel in cultural events.

The focus of Winnipeg's cultural life is Manitoba's Centennial Arts Centre, a joint municipal and provincial multimillion-dollar centennial project. This complex of four buildings features a concert hall, planetarium, museum and research centre. Many of the various social, scientific and business meetings during the CDA national convention are scheduled to take place in the Centennial Centre.

What to see and what to do while in Winnipeg can present a problem because there are so many possibilities from which to choose. Here are just a few:

Buildings

Centennial Centre — Manitoba's \$15 million cultural complex is located on Main Street North in downtown Winnipeg. The Concert Hall and Planetarium portions of the centre were completed during 1967. The Manitoba Theatre Centre and the Museum of Man and



Fort Garry Gate and Hotel.

Nature are scheduled for completion in time for the celebrations of Manitoba's centennial this year. Tours may be arranged by telephoning 947-5686.

City Hall — In Winnipeg's new City Hall on Main Street, the administrative and legislative functions have been located in separate buildings which are linked by an ornamental hall. Tours may be arranged by telephoning 946-0196.

Legislature — Manitoba's provincial legislative building at Broadway and Osborne is one of the finest neo-classical structures in the world. It is made of native Tyndall stone. The building contains the legislative chambers, Lieutenant-Governor's suite, offices of the Premier and cabinet ministers, provincial library and archives, and some departments of government. Atop its 240 foot high dome is the Golden Boy, one of the best known symbols of Manitoba. The torch held aloft in his right hand lights the way of future economic development and progress in the North, while the sheaf of wheat cradled in his left arm represents agriculture. The 13½ foot figure, weighing five tons, was cast in bronze by the French sculptor Charles Gardet of Paris. It is now sheathed in 23½ karat gold.

Landmarks

Countess of Dufferin — The first locomotive in western Canada stands in front of the CPR Station on Higgins Avenue. This old wood burner arrived in St. Boniface on October 10, 1877. The locomotive, tender, flat cars and caboose, all mounted on a barge were pushed down the Red River by a stern wheel steamboat. The locomotive was used in the construction of the first rail line in Manitoba between St. Boniface and Emerson.

WINNIPEG



- A Centennial Centre Complex
- B Civic Centre Complex
- C CNR Station
- D CPR Station (Countess of Dufferin)
- E Winnipeg Auditorium
- F Manitoba Legislature
- G Grain Exchange
- H Indian Handicrafts of Manitoba
- I Knox United Church
- J Ross House

- 1 Fort Garry Hotel
- 2 Marlborough Hotel
- 3 Charterhouse Motel
- 4 Sheraton Carlton Motel
- 5 Gordon Downtowner Motel
- 6 Mall Hotel
- 7 Winnipeg Inn
- 8 North Star Inn

Upper Fort Garry Gate — The northern gateway of Upper Fort Garry, all that remains of the Hudson's Bay Company trading post that stood on this site, is preserved as a park on Main Street opposite the CNR Station. For almost half a century this fort was the headquarters of the Hudson's Bay Company in western Canada.

Grain Exchange — The Winnipeg Grain Exchange, one of the largest in the world, is located on Lombard Avenue at Rorie Street. The trading floor is open to visitors from 9:30 am to 1:15 pm. Guides are available to take visitors on tours of the building during these hours.

Grey Nuns' Home — The oldest institutional building in western Canada is located at 151 Despins, St. Boniface. It was built in 1845 as the Grey Nuns' Provincial House by Bishop Provencher, founder of St. Boniface. Today this house is a museum and contains a fine collection of articles and artifacts connected with the early history of St. Boniface.

La Verendrye Monument — On Tache Avenue, opposite St. Boniface Hospital, this monument honours Pierre Gaultier de la Verendrye. He and his sons were the first white men to travel west by the Great Lakes chain to reach the forks of the Red and Assiniboine Rivers. La Verendrye is credited with having erected the first building — Fort Rouge — on the site of the future city of Winnipeg in 1738. From the forks la Verendrye explored much of the country west opening it up to the fur trade.

Louis Riel's Grave — Riel was the leader of the Metis and president of the provisional government during the tumultuous days of Manitoba's birth as a province. His grave is in the St. Boniface Basilica churchyard at 190 Cathedrale Avenue.

Seven Oaks House — The oldest habitable home in Manitoba is located on Rupertsland Avenue in West Kildonan. This large, two storey, squared log house was built by John Inkster in 1851. Now a museum, it contains the original furniture and other household items. The building is open daily from 2:00 to 4:30 pm and 7:00-8:30 pm. Admission 10 cents.

Ross House — The first post office in western Canada, now located on Higgins Avenue opposite the CPR Station, was opened in 1855. It is now a museum operated by the Manitoba Historical Society. Visiting hours are 10:00 am to 6:00 pm weekdays and 1:00-5:00 pm Sundays from June to September. Admission 35 cents.

Parks

Assiniboine Park — This 362 acre park has many fine attractions including playgrounds, picnic sites, miniature railway, a duck pond, an English garden, a conservatory, a refreshment pavilion and a zoo rated as one of the finest in Canada. The conservatory contains many exotic plants and features a spectacular chrysanthemum display in November and a popular Easter lily show annually. It is open daily from 8:00 am to sundown.

Memorial Park — Located between Memorial Boulevard and Osborne Street in front of the Legislative Building, the park presents a colourful array of flowers and shrubs. A large central fountain is illuminated with multi-coloured lights.

Kildonan Park — This lovely park off Main Street North is one of the few places in southern Manitoba that has remained relatively unchanged since the early days of settlement. Some of the oldest and largest trees in the province still stand in the park. A picturesque modern pavilion has a restaurant and other facilities. Also in the park are a fine outdoor public swimming pool and Rainbow Stage, home of Winnipeg's popular outdoor summer theatre.

Arts and Crafts

Winnipeg Art Gallery — Hitherto located in the Civic Auditorium at St. Mary Avenue and Vaughan Street, the gallery is to have a new building of its own this year. It contains a fine collection of Canadian and European paintings and loan exhibits are featured from time to time. Visiting hours are 9:00 am to 4:30 pm weekdays and 2:00-5:00 pm Sundays.

Indian Handicraft of Manitoba — This excellent source of authentic Manitoba souvenirs is located at 470 Portage Avenue, opposite the bus depot. It offers a large display of beaded buckskin articles, carvings, birch bark objects and other handcrafted Indian wares. Open daily 10:00 am to 5:00 pm; Friday 10:00 am to 9:00 pm.

Crafts Guild of Manitoba — Fine hand-crafted articles — woven goods, wood turnings, leather work, wood carvings, pewter and silver pieces, needlework, ceramics, Eskimo carvings and Indian buckskin work are on sale at 183 Kennedy Street. Open daily 10:00 am to 4:30 pm except Sundays.

Scientific Program

General program

Wednesday, July 1

6:00 Scientific and commercial exhibits

Thursday, July 2

8:30 Scientific and commercial exhibits

9:00 S. N. Bhaskar, Washington

1. Diagnosis and treatment of pulp diseases in general practice

2. Periodontics in general practice

10:15 Scientific and commercial exhibits

1:30 B. F. Dewel, Evanston, Illinois

Serial extraction; precautions and prerequisites (Grieve Memorial Lecture)

2:30 Table clinics

3:00 Scientific and commercial exhibits.

Friday, July 3

8:30 Scientific and commercial exhibits

9:00 L. I. Grossman, Philadelphia

A practical endodontic technique

10:15 Scientific and commercial exhibits

2:00 I. Kleinberg, Winnipeg; Paul Goldhaber, Boston; I. D. Mandel, New York; and L. M. Golub, Winnipeg

Panel: Clinical application of basic research

3:00 Scientific and commercial exhibits

Saturday, July 4

8:30 Scientific and commercial exhibits

9:00 Clinical lectures

10:00 Scientific and commercial exhibits

10:30 CDA presentation: "The role of allied dental personnel in Canada"

1:30 Clinical lectures

2:45 Panel discussion (representatives from the dental specialties) "What's new in dentistry"



"Golden Boy"
atop Manitoba's Legislature
symbolizes youth and enterprise.

Essayists and clinicians

Irwin D. Mandel, New York
Professor of dentistry, School of Dental
and Oral Surgery, Columbia University

S. N. Bhaskar, Washington
Chief, Division of Oral Pathology,
US Army Institute of Dental Research,
Walter Reed Army Medical Centre

L. I. Grossman, Philadelphia
Professor of Oral Medicine,
School of Dental Medicine, University of Pennsylvania

L. M. Golub, Winnipeg
Associate professor of oral biology,
Faculty of Dentistry, University of Manitoba

Israel Kleinberg, Winnipeg
Professor of oral biology and head of biochemistry,
Faculty of Dentistry, University of Manitoba

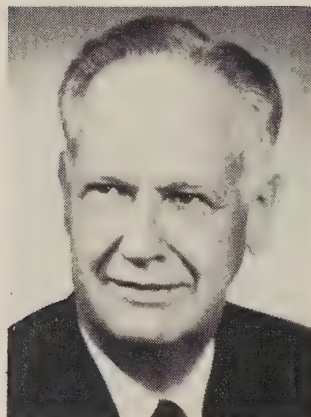
Paul Goldhaber, Boston
Dean, Harvard University
School of Dental Medicine

T. K. Barber, Los Angeles
Professor and chairman, Division of
Paediatric Dentistry, School of Dentistry,
University of California at Los Angeles

B. F. Dewel, Evanston, Illinois
Editor, American Journal of Orthodontics.
Diplomate and past president, American Board of
Orthodontics. 1970 Grieve Memorial Lecturer.



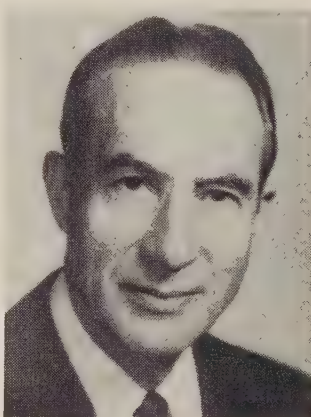
I. D. Mandel



B. F. Dewel



S. N. Bhaskar



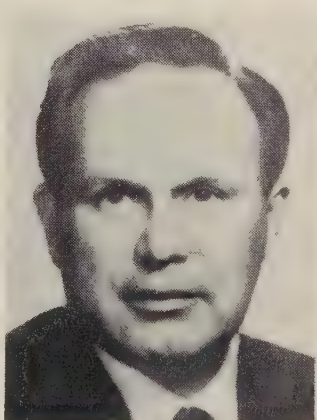
L. I. Grossman



Israel Kleinberg



L. M. Golub



Paul Goldhaber

Sections

Canadian Academy of Endodontics

A two day meeting is scheduled for Wednesday and Thursday, July 1-2, at the Hotel Sonesta.

Wednesday, July 1

- 8:30 Registration
- 9:00 Opening ceremony
- 9:30 I. Kleinberg, Winnipeg: Biochemistry and endodontics
- 10:45 M. J. Averback, Winnipeg: Periodontics and endodontics
- 12:00 Luncheon. Educational session
- 2:00 S. Kennet, Winnipeg: Oral surgery and endodontics
- 3:15 Business meeting
- 6:00 Outdoor barbecue

Thursday, July 2

- 9:00 L. I. Grossman, Philadelphia: Progress in endodontics since 1960
- 12:00 Luncheon. Educational session
- 2:00 S. N. Bhaskar, Washington, Apical lesions

Canadian Society of Orthodontists

A two day meeting is scheduled for Thursday and Friday, July 2-3, at the Centennial Concert Hall.

Thursday, July 2

- 9:00 Business meeting. Active members
- 1:30 B. F. Dewel, Evanston, Illinois: Serial extraction; precautions and prerequisites (Grieve Memorial Lecture)
- 3:00 R. Thurow, Madison, Wisconsin: The mechanics of tooth movement; a simplified analytic approach

Friday, July 3

- 9:00 B. F. Dewel, Evanston, Illinois: Mixed dentition treatment in orthodontics
- 10:30 R. Thurow, Madison, Wisconsin: Anatomy, function and vertical dimension
- 1:30 J. F. Cleall, staff and graduate students of the Orthodontic Department, University of Manitoba: Presentations and table clinics

Canadian Academy of Prosthodontics

The following provisional program has been announced. A one day meeting is tentatively scheduled for Wednesday, July 1, at the Fort Garry Hotel.

Wednesday, July 1

- 8:30 I. Kleinberg, S. M. Borden and C. G. Ibbott, Winnipeg: Periodontal points of view correlated to removable partial prosthodontics
- 10:45 C. G. Dowse and J. Stakiw, Saskatoon: Muscle physiology and the consequent vertical dimension of the face
- 2:00 W. B. Love, Winnipeg: Morphology and physiology of the posterior palatal area correlated to prosthodontics

- 3:05 W. T. Harley, Edmonton: topic to be announced
- 4:15 Business meeting

Canadian Academy of Restorative Dentistry

A two day meeting is scheduled for Monday and Tuesday, June 29-30, at the Faculty of Dentistry, University of Manitoba, 780 Bannatyne Avenue.

Monday, June 29

- 8:30 Registration
- 9:00 W. W. Pressey, Toronto: Principles governing aesthetics in restorative dentistry
- 10:20 M. D. Jones, Edmonton: Aesthetic considerations in dental ceramics
- 11:00 W. R. Scott, Vancouver: Precision attachments
- 2:00 Z. Kasloff, Winnipeg: Comments on dentistry in Europe
- 2:30 Panel discussion: Can we improve cooperation between the dental technician and the restorative dentist
- 6:00 Social event

Tuesday, June 30

- 8:30 Registration
- 9:00 B. L. Mendel, Montreal: Periodontal considerations in restorative dentistry
- 9:45 A. J. Shinoff, Winnipeg: New method of pin retention
- 11:00 G. H. Gibb, Edmonton: Class III and Class IV restorations
- 11:45 G. L. Locke, Calgary: Aesthetic problems in oral rehabilitation
- 2:00 A. H. Cottick, Winnipeg: It's never too late
- 2:40 Business meeting
- 6:00 Annual banquet

Canadian Society of Public Health Dentists

A two day meeting is scheduled for Friday and Saturday, July 3-4. Provincial dental directors and heads of departments of community dentistry (dental public health) at Canadian universities are also urged to attend the Board of Governors meeting, June 29-July 1, and acquaint themselves with revision of the CDA's by-laws and other important issues.

Friday, July 3

- 9:00 J. M. Conchie, Surrey, BC; J. V. P. Chatwin, Ottawa; and A. B. Sutherland, Sudbury: Fluorides in private practice and public health
- 10:00 Business meeting
- 11:00 J. E. Purdie, Brandon, and W. M. Sinclair, Dauphin, Man.: Dental health education techniques
- 2:00 I. Kleinberg, Winnipeg; Paul Goldhaber, Boston; I. D. Mandel, New York; and L. M. Golub, Winnipeg: Clinical application of basic research
- 3:00 Motion pictures (in the Centennial Hall)

Saturday, July 4

- 10:30 CDA presentation: The role of allied dental personnel in Canada
- 2:00 Table clinic by C. G. Shapera, Winnipeg: Oral conditions found in Manitoba children. (This clinic is jointly sponsored by the Canadian

Society of Public Health Dentists and the Manitoba Chapter, Canadian Society of Dentistry for Children)

**Canadian Academy of Paedodontics
Canadian Society of Dentistry for Children**

Both groups will jointly sponsor a two day meeting on Thursday and Friday, July 2-3. The sessions are open to all convention delegates.

Thursday, July 2

- 9:15 T. K. Barber, Los Angeles:
Growth and development
- 1:30 B. F. Dewel, Evanston, Illinois: Serial extractions; precautions and prerequisites (Grieve Memorial Lecture)
- 2:30 Norman Levine, Toronto: Supernumerary teeth
- 2:30 Table clinic by C. G. Shapera, Winnipeg:
Oral conditions found in Manitoba children
- 3:30 W. J. Simpson, Edmonton: Pulpotomy in primary teeth

Friday, July 3

- 9:15 T. K. Barber, Los Angeles:
Interceptive orthodontics
- 2:30 Essayist (subject and topic to be announced)
- 3:30 Business meeting of the Canadian Academy of Paedodontics

Dental hygienists

The seventh annual convention of the Canadian Dental Hygienists Association will be held Tuesday to Saturday, June 30-July 4, at the Centennial Concert Hall.

Tuesday, June 30

- 2:00 First session of the Board of Directors.
Fort Garry Hotel
- 7:00 Informal dinner

Wednesday, July 1

- 9:00 Second session of the Board of Directors.
Fort Garry Hotel
- 2:00 Registration begins. Concert Hall
- 7:00 Wine and cheese tasting party
- 8:30 Variety concert and official opening

Thursday, July 2

- 8:00 Registration
- 9:00 Essayist (name and topic to be announced)
- 10:30 S. N. Bhaskar, Washington:
Periodontics in general practice
- 12:00 Luncheon
- 2:00 CDHA general meeting
- 6:30 President's Ball

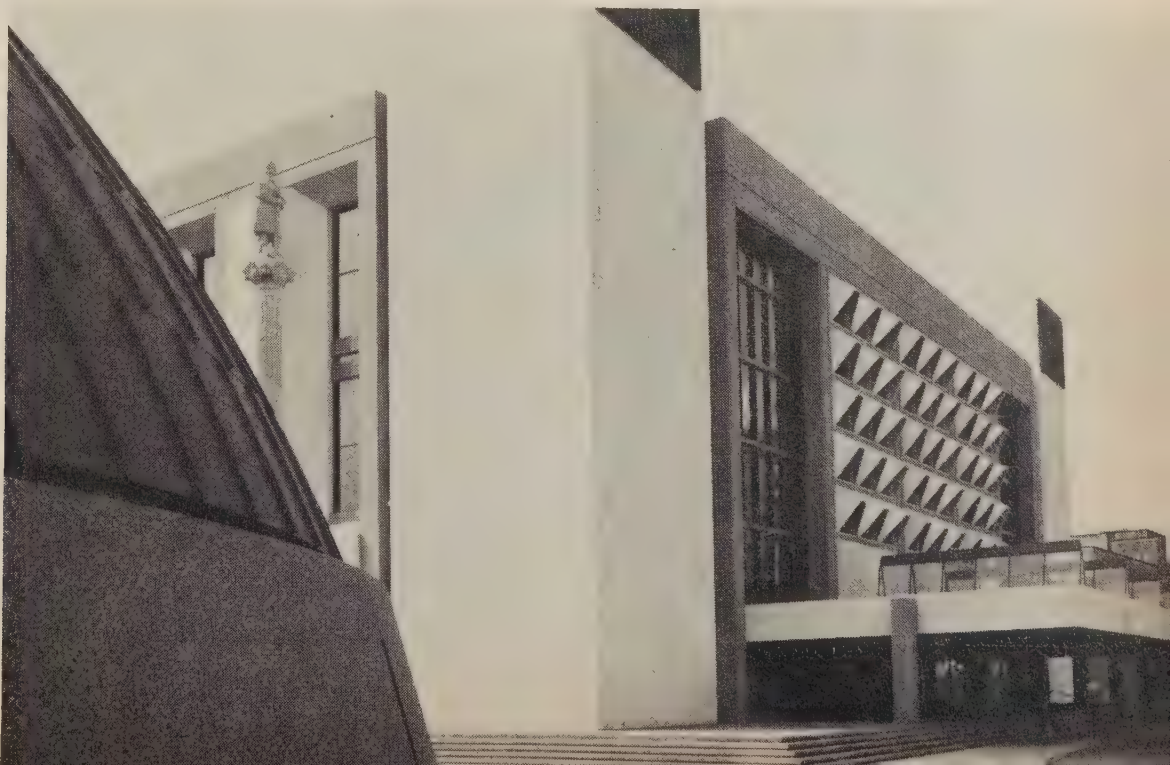
Friday, July 3

- 9:00 Panel discussion: Dental hygiene; the profession and ethics
- 11:30 Luncheon
- 1:00 T. K. Barber, Los Angeles:
Interceptive orthodontics
- 2:00 Scientific and commercial exhibits
- 7:00 Dinner. Installation of officers. International Inn

Saturday, July 4

- 9:00 W. W. Shortill, Winnipeg: Utilization of a dental hygienist in group practice
- 10:30 L. M. Golub, Winnipeg: The possible future role of the dental hygienist in diagnosis of periodontal disease
- 12:00 Luncheon
- 6:00 Wind-up party. Highlander Curling Club

Manitoba Centennial
Arts Centre.





Civic Centre.

Dental assistants

The twenty-third annual convention of the Canadian Dental Nurses and Assistants Association will be held Wednesday to Saturday, July 1-4, at the Centennial Concert Hall.

Wednesday, July 1

- 2:00 Registration
- 2:00 Board of Governors meeting
- 5:00 House of Delegates meeting
- 6:30 Wine and cheese tasting party. Buffet
- 8:00 Concert Hall entertainment

Thursday, July 2

- 8:00 Registration
- 9:15 Official opening. Presidential address by Miss Elaine Wesley. Official greetings from the Canadian Dental Association, Manitoba Dental Association and Winnipeg Dental Society
- 11:00 Essayist (name and topic to be announced)
- 12:00 Luncheon
- 2:00 Table clinics
- 6:30 CDNAA dinner aboard a river cruise boat

Friday, July 3

- 9:00 S. R. Katz, Winnipeg: Aesthetics
- 11:00 Scientific and commercial exhibits
- 12:00 Luncheon
- 2:00 CDNAA general meeting. Election of officers
- 5:00 Reception

Saturday, July 4

- 9:00 Mrs. J. Soloway, Winnipeg: Professionalism
- 10:30 CDA presentation: "The role of allied dental personnel in Canada"
- 12:00 Luncheon
- 2:00 Installation of officers
- 6:00 Barbecue, wind-up dance

Registration

Canadian Dental Nurses and
Assistants Association
Winnipeg, July 1-4, 1970

Name _____

Address _____

☐ I require accommodation

Arrival date _____ Time _____

Convention fee \$25 (\$20 for official delegates)

Mail completed form and cheque to: Manitoba
Dental Nurses and Assistants Association, PO
Box 1736, Winnipeg, Man.

Messages des Présidents

J'ai le plaisir de vous inviter cordialement au Congrès National de l'Association Dentaire Canadienne qui aura lieu en juillet à Winnipeg. L'hospitalité des Manitobains est universellement reconnue. Quand on y ajoute la présence de cliniciens de renommée internationale, les activités sociales et les expositions commerciales, nous avons là la base d'un congrès que nul ne saurait manquer.

Le Dr J. P. Beattie, avec l'aide de son comité et de l'Association Dentaire du Manitoba, n'a épargné aucun effort pour présenter un programme hors pair. Nous espérons avoir le plaisir de vous rencontrer tous à Winnipeg.

H. R. MacLean, Président
Association Dentaire Canadienne

Au nom des dentistes de notre province, j'ai l'honneur d'inviter tous nos collègues canadiens à venir se joindre à nous pour célébrer le centenaire du Manitoba.

Puisque nous sommes situés au centre géographique du Canada, ce sera l'occasion de venir de l'est, de l'ouest, du nord et du sud, et de renouer des relations déjà anciennes.

Nous vous offrons un congrès très intéressant, qui est l'aboutissement d'efforts fournis depuis plusieurs mois par la plupart de nos membres.

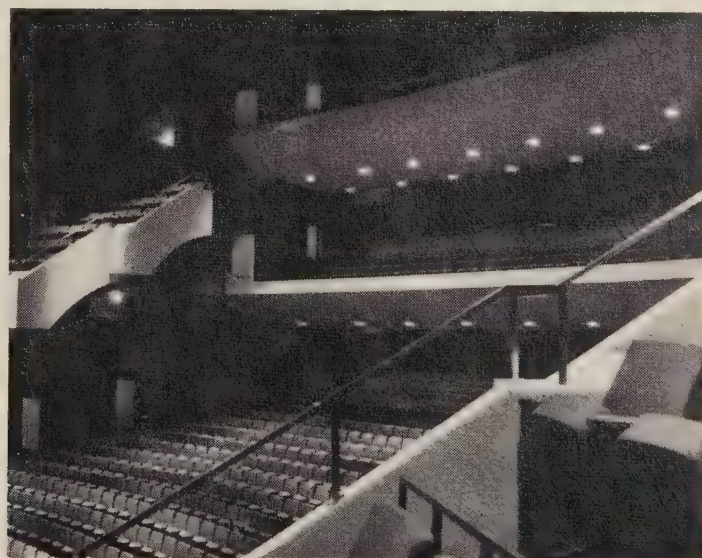
Je peux dire, en toute modestie, que l'hospitalité constitue la ressource naturelle la plus importante du Manitoba, et que nous vous l'offrons sans restrictions. Alors, amenez votre famille et venez passer quelques jours avec nous.

A. J. Shinoff, Président
Association Dentaire du Manitoba

Le foyer du Centre du Centenaire du Manitoba.



L'amphithéâtre du Centre du Centenaire du Manitoba.





L'Eglise St. Andrew's, construite en 1853 et située sur la Rivière Rouge à 15 milles de Winnipeg, est la plus ancienne église en pierre ouverte à l'exercice du culte dans l'Ouest canadien.

Renseignements généraux

Réunion du Bureau des Gouverneurs

La réunion annuelle du Bureau des Gouverneurs de l'Association Dentaire Canadienne aura lieu à l'hôtel Fort Garry de Winnipeg, du 29 juin au 1^{er} juillet. Tous les membres de l'ADC peuvent assister aux séances.

Le Congrès National

Le Congrès National de l'Association Dentaire Canadienne aura lieu du mercredi soir 1^{er} juillet au samedi 4 juillet, au Centre du Centenaire.

Inscription

Vous trouverez une formule d'inscription au congrès dans ce numéro du Journal ainsi que dans d'autres envois publicitaires. Il est recommandé de s'inscrire tôt car les chambres sont en nombre limité et elles ne sont attribuées que sur réception de la formule et des droits d'inscription. Ceux qui s'inscriront à l'avance auront l'avantage de participer à un tirage dans lequel l'heureux gagnant aura une voiture mise à sa disposition gratuitement pour toute la durée du congrès.

Logement

A cause des fêtes du Centenaire du Manitoba et de la période des vacances, les chambres d'hôtel et de motel seront très demandées pendant la durée du congrès à Winnipeg. Un nombre suffisant de chambres a été réservé dans les hôtels et motels du centre et de la périphérie de la ville; ces chambres ne pourront cependant être retenues que si nous recevons les confirmations assez tôt.

L'attribution des chambres sera faite par le comité du congrès sur réception de la formule et des droits d'inscription. Indiquez sur la formule d'inscription si vous assisterez à la réunion du Bureau des Gouverneurs, si vous appartenez à une section de spécialité, ou tout autre demande particulière concernant le logement. En vous inscrivant tôt il nous sera plus facile de vous loger comme vous le désirez.

Bureau d'inscription

Le bureau d'inscription du Centre du Centenaire sera ouvert de 14h.00 à 20h.00, mercredi le 1^{er} juillet; et de 8h.00 à 16h.30, jeudi et vendredi les 2 et 3 juillet.

Exposition commerciale

Le congrès dispose d'une superficie exceptionnellement vaste où sera exposé un assortiment varié d'articles dentaires. Les délégués pourront voir cette exposition aux heures réservées, soit le mercredi 1^{er} juillet, de 18h.00 à 20h.00; jeudi et vendredi 2 et 3 juillet, de 8h.45 à 16h.45; samedi 4 juillet, de 8h.45 à midi.

Déjeuners

Les trois déjeuners seront servis dans le Centre du Centenaire. Le prix est inclus dans les droits d'inscription. Ces déjeuners se passeront sans aucune cérémonie et aucun discours ne troublera votre détente.

Activités récréatives

"L'hospitalité de l'Ouest" constitue la note dominante de ce congrès — avec un nouveau programme social qui diffère du format des congrès antérieurs.

Soirée d'inscription

Mercredi, le 1^{er} juillet de 19h.00 à 23h.00 — grande ouverture du congrès. Venez tôt pour apprécier les vins et fromages ainsi que le buffet et pour ensuite être

divertis par un programme de variétés d'une heure dans le magnifique Hall du Centenaire.

Le Bal du Président

Jeudi, le 2 juillet, de 18h.30 à 1 heure du matin. Cette année, vous pourrez participer à la soirée la plus prestigieuse du programme social alors que vous serez encore frais et dispos. La soirée comprendra un dîner sans cérémonie, un spectacle avec des artistes renommés, et un bal animé par le grand orchestre de Jimmy Dorsey, avec Lee Castle en vedette.

Soirée libre

Vendredi, le 3 juillet — Vous serez libre d'agir à votre guise: rencontrer des compagnons de classe, aller aux courses ou au Rainbow Stage, ou bien vous reposer et attendre le lendemain.

Soirée des Survivants

Samedi, le 4 juillet — Les délégués de l'Est et de la Colombie Britannique qui auront survécu et se sentent toujours en bonne forme sont invités à se joindre à ceux des Prairies pour une soirée de clôture à la mode de l'Ouest. Vous apprécierez le clou de la soirée — si vous tenez le coup jusque là.

Programme des dames

Les activités des dames commenceront avec l'inscription, mercredi, le 1^{er} juillet au Centre du Centenaire de Winnipeg, suivie d'une dégustation de vins et fromages de 19h.30 à 21h.00 et d'un spectacle dans le nouveau Concert Hall.

Un déjeuner pour les dames aura lieu dans la splendide Synagogue Rosh Pina le jeudi et sera suivi d'un

défilé de mode historique. Plus tard dans la soirée, il y aura une réception à 19h.00 avant le Bal du Président — une soirée de gala, avec dîner gastronomique et danse au son d'un grand orchestre dans le Winnipeg Civic Auditorium.

Vendredi, on a prévu d'offrir le café au Government House de 11h.00 à midi, suivi d'une excursion sur la Rivière Rouge jusqu'à l'historique Lower Fort Garry. Plus tard, durant la soirée, les dames pourront aller au Manisphere à 20h.00 pour assister à une représentation spéciale de la Gendarmerie Royale du Canada.

Le samedi matin, un brunch sera servi aux dames à 11h.00, à l'hôtel Fort Garry et sera suivi d'un spectacle. Plus tard dans la soirée, à 20h.00 vous pourrez vous détendre et vous amuser au Barbecue de clôture au Highlander Curling Club.

Toutes les activités des dames — déjeuner, brunch, excursion et barbecue de clôture — sont comprises dans leurs frais de participation de \$15. Le transport en autobus sera offert en toute occasion. Inscrivez-vous tôt.

Vacances familiales

Cette année pourrait être la dernière pour un voyage de famille concordant avec le congrès de l'ADC. Nous vous aiderons volontiers dans vos projets.

Le Manitoba, "le centre du Continent", vous suggère les fêtes du Centenaire: la visite de la Reine, un voyage en bateau jusqu'à Norway House, un voyage en train à Churchill, les rodéos et stampedes, un voyage par avion ou par auto à des camps de pêche, les plages, et enfin les divertissements de la ville (Manisphere, les courses, le golf).

En nous envoyant votre formule d'inscription, dites-nous ce que vous aimeriez faire.



Le lac Falcon, situé dans le parc provincial Whiteshell, n'est qu'à 90 milles de Winnipeg.



La "Comtesse de Dufferin" a été la première locomotive à traverser la Rivière Rouge à Winnipeg en 1879.

Que faire à Winnipeg ?

Winnipeg, capitale du Manitoba, est située au confluent de la rivière Rouge et de la rivière Assiniboine, presque à mi-chemin entre l'Atlantique et le Pacifique.

Petit comptoir de la Compagnie de la Baie d'Hudson (Fort Garry), qui groupait 215 âmes en 1770, Winnipeg s'est hissée au rang d'une grande ville de 254,000 habitants. Lorsqu'elle fut érigée en municipalité, en 1873, elle comptait 1,869 habitants. En 1878, venant de St. Paul au Minnesota, le chemin de fer atteignit l'autre berge de la rivière en face de Winnipeg; et en 1886, le premier train direct, qui avait quitté Montréal le 28 juin, atteignit la ville le 1er juillet. Les liaisons ferroviaires provoquèrent un courant continu d'échanges ainsi qu'un apport de population qui susciterent l'apparition d'une ville qui se range parmi les plus importantes du Canada.

Winnipeg est devenu le plus grand centre du blé de l'Amérique du Nord, et le haut-lieu de la finance, du commerce et des industries du centre du pays. L'aspect le plus frappant de la production manufacturière de Winnipeg est la diversité; la variété de ses produits dépasse celle de toute autre ville comparable au Canada.

Les lieux de magasinage ne manquent pas non plus d'intérêt, ils offrent un grand choix de produits de qualité, des magasins spacieux et agréables, de vastes terrains de stationnement. Les touristes apprécient surtout la porcelaine, les fourrures et les articles de laine.

Winnipeg est aussi un centre culturel d'importance sur le continent. Son théâtre, parmi les cinq premiers d'Amérique du Nord, a donné des premières canadiennes et mondiales. Le Royal Winnipeg Ballet est l'une des quatre troupes de ballet du monde qui sont placées sous patronage royal. L'Orchestre symphonique de Winnipeg donne près de 60 concerts par an, dont certains attirent dans la ville des virtuoses de renommée mondiale. Le théâtre d'été offre à son nombreux public quatre comédies musicales par an. Les divers groupes ethniques organisent aussi nombre de manifestations culturelles.

Le Centennial Arts Centre du Manitoba, réalisé conjointement par la province et la ville, est le foyer de la vie culturelle de Winnipeg. Ses quatre bâtiments abritent une salle de concert, un planétarium, un musée et un centre de recherche. Un grand nombre de réunions sociales, scientifiques ou d'affaires du congrès national de l'ADC auront lieu au Centre.

Il y a tant de choses à voir et à faire à Winnipeg que nous devons vous en suggérer quelques unes pour vous éviter l'embarras du choix:

Edifices

Le Centre du Centenaire — complexe culturel de \$15 millions — est situé sur Main Street North, au centre de Winnipeg. La salle de concert et le planétarium ont été terminés en 1967. Le Manitoba Theatre Centre et le Museum of Man and Nature doivent être achevés à temps pour la célébration du centenaire du Manitoba cette année. On peut organiser des visites par téléphone (947-5686).

L'Hôtel de ville — sur Main Street, dans ce nouvel hôtel de ville, les fonctions législatives et administratives ont été séparées dans des bâtiments différents que relie une grande salle décorée. On peut organiser des visites par téléphone (946-0196).

Le Parlement — à la jonction des rues Broadway et Osborne, le parlement provincial est l'un des plus

beaux édifices néo-classiques du monde, construit en pierre de Tyndall. Il contient les chambres législatives, la résidence du Lieutenant-Gouverneur, les bureaux des ministres, la bibliothèque et les archives provinciales, ainsi que quelques ministères. Au sommet du dôme de 240 pieds se trouve le Golden Boy, l'un des emblèmes du Manitoba. Il tient haut dans la main droite le flambeau qui éclaire la mise en valeur future du Nord et serre dans son bras gauche une gerbe de blé qui représente l'agriculture. Cette statue de 13½ pieds, qui pèse cinq tonnes a été moulée dans le bronze par le sculpteur Charles Gardet de Paris. Elle est maintenant recouverte d'or à 23½ carats.

Lieux importants

La Comtesse de Dufferin, première locomotive dans l'ouest du Canada, se trouve en face de la gare CP de l'avenue Higgins. Cette vieille machine à bois arriva à St-Boniface le 10 octobre 1877. Locomotive, tender, wagons plate-forme et fourgon de queue descendirent la rivière Rouge sur une péniche poussée par un vapeur à roue arrière. La locomotive servit à construire la première voie ferrée du Manitoba, entre St-Boniface et Emerson.

La Porte de Upper Fort Garry, qui est tout ce qui reste de l'ancien comptoir de la Compagnie de la Baie d'Hudson, est conservée sous forme de parc, sur Main Street, en face de la gare CP. Ce fort fut le siège de la Compagnie de la Baie d'Hudson dans l'ouest du Canada pendant près d'un demi siècle.

La Bourse des grains — l'une des plus grandes du monde, se trouve sur l'avenue Lombard à la jonction de la rue Rorie. La parquet est ouvert aux visiteurs de 9h.30 à 13h.15. On peut effectuer une visite guidée de l'immeuble durant ces heures là.

La Maison des Soeurs Grises, la plus ancienne institution de l'ouest du Canada, est située au 151 Despins, St-Boniface. Cette Maison provinciale des Soeurs Grises fut élevée en 1845 par Mgr Provencher, fondateur de St-Boniface. C'est aujourd'hui un musée qui contient une belle collection d'objets se rapportant aux premières années de St-Boniface.

Le monument à La Vérendrye — sur l'avenue Tache, face à l'hôpital St-Boniface. Pierre Gaultier de La Vérendrye et ses fils furent les premiers blancs à voyager vers l'ouest par les Grands Lacs pour atteindre le confluent des rivières Rouge et Assiniboine. On attribue à La Vérendrye l'érection du premier bâtiment — Fort Rouge — sur l'emplacement de la ville de Winnipeg, en 1738. La Vérendrye explora une bonne partie du pays à l'ouest du confluent et l'ouvrit au commerce de la fourrure.

La tombe de Louis Riel — Riel fut le chef des Métis et le président du gouvernement provisoire au cours des jours troublés qui virent la naissance du Manitoba. Sa tombe est dans le cimetière de la Basilique St-Boniface, au 190 avenue de la Cathédrale.

La Maison des Sept Chênes — la plus vieille maison habitable du Manitoba est située sur l'avenue Rupertsland à West Kildonan. Imposante maison de deux étages, en rondins équarris, elle fut érigée par John Inkster en 1851. Elle est ouverte tous les jours de 14h. à 16h.30 et de 19h. à 20h.30. Prix d'entrée: 10 cents.

La Maison Ross — premier bureau de poste dans l'ouest du Canada ouvert en 1855. Elle se trouve sur l'avenue Higgins face à la gare CP. C'est maintenant un musée tenu par la Société historique du Manitoba. Visites de 10h. à 18h. en semaine et de 13h. à 17h. le dimanche de juin à septembre. Prix d'entrée: 35 cents.

Les parcs

Le parc Assiniboine couvre 362 acres. Il comporte des terrains de jeu, des emplacements de pique-nique, un train miniature, une mare à canards, un jardin anglais, des serres, un pavillon de boissons et l'un des plus beaux jardins zoologiques du Canada. Les serres renferment beaucoup de plantes exotiques et on y organise une vaste exposition de chrysanthèmes en novembre et de lis à Pâques. Elles sont ouvertes tous les jours de 8h. au coucher du soleil.

Le parc Mémorial — entre le boulevard Mémorial et la rue Osborne, face au parlement, ce parc possède des massifs colorés de fleurs et de buissons. Des feux multicolores illuminent le grand jet d'eau central.

Le parc Kildonan — ce charmant parc sur Main Street North est l'un des rares endroits du Manitoba du sud qui ait peu changé depuis le début de la colonisation. Il contient quelques-uns des arbres les plus vieux et les plus grands de la province. Le parc comporte un pavillon moderne avec restaurant et autres commodités, une belle piscine extérieure publique, ainsi que le Rainbow Stage, siège du théâtre d'été en plein air de Winnipeg.

Beaux-Arts et Artisanat

La Galerie d'Art de Winnipeg — jusqu'à présent située au Civic Auditorium au coin de l'avenue St. Mary et de la rue Vaughan, la galerie doit emménager dans son propre édifice cette année. Elle possède une belle collection de tableaux canadiens et européens et organise des expositions spéciales de temps à autre. Visites de 9h. à 16h.30 en semaine et de 14h. à 17h. le dimanche.

Artisanat indien du Manitoba — cette excellente source de souvenirs manitobains authentiques se trouve au 470 avenue Portage, face au terminus des autobus. On y trouve un grand choix d'articles en peaux garnis de perles, sculptures, objets d'écorce de bouleau etc. Ouvert de 10h. à 17h., le vendredi de 10h. à 21h.

Guilde d'artisanat du Manitoba — elle vend des produits faits main — articles tissés, cuir travaillé, bois tourné ou sculpté, pièces d'étain et d'argent, broderies, céramique, objets esquimaux et indiens — au 183 rue Kennedy, ouvert de 10h. à 16h.30, sauf le dimanche.

Programme scientifique

Programme général

Mercredi, le 1^{er} juillet

18h.00 Exposition scientifique et commerciale

Jeudi, le 2 juillet

8h.30 Exposition scientifique et commerciale
9h.00 S. N. Bhaskar, Washington
1. Diagnostic et traitement des maladies pulpaire en pratique générale
2. Périodontie en pratique générale
10h.15 Exposition scientifique et commerciale
13h.30 B. F. Dewel, Evanston, Illinois
Extractions systématiques en série; précautions et exigences préalables (Conférence Grieve Memorial)
14h.30 Démonstrations cliniques
15h.00 Exposition scientifique et commerciale

Vendredi, le 3 juillet

8h.30 Exposition scientifique et commerciale
9h.00 L. I. Grossman, Philadelphie
Une technique d'endodontie pratique
10h.15 Exposition scientifique et commerciale
14h.00 I. Kleinberg, Winnipeg; Paul Goldhaber, Boston; I. D. Mandel, New York; L. M. Golub, Winnipeg; Panel: Application clinique de la recherche fondamentale
15h.00 Exposition scientifique et commerciale

Samedi, le 4 juillet

8h.30 Exposition scientifique et commerciale
9h.00 Conférences cliniques
10h.00 Exposition scientifique et commerciale
10h.30 Présentation de l'ADC: "Le rôle du personnel dentaire connexe au Canada"
13h.30 Conférences cliniques
14h.45 Panel (représentants des spécialités dentaires)
"Quoi de neuf en art dentaire"

Programme des sections

L'Académie canadienne d'endodontie

Une conférence de deux jours est prévue pour mercredi et jeudi, les 1 et 2 juillet, à l'hôtel Sonesta.

Mercredi, le 1^{er} juillet

8h.30 Inscription
9h.00 Cérémonie d'ouverture
9h.30 I. Kleinberg, Winnipeg: Biochimie et endodontie
10h.45 M. J. Averbach, Winnipeg: Périodontie et endodontie
12h.00 Déjeuner. Session éducative
14h.00 S. Kennet, Winnipeg: Chirurgie buccale et endodontie
15h.15 Réunion d'affaires
19h.00 Barbecue en plein air

Jeudi, le 2 juillet

9h.00 L. I. Grossman, Philadelphie: Les progrès en endodontie depuis 1960
12h.00 Déjeuner. Session éducative
14h.00 S. N. Bhaskar, Washington: Lésions apicales

La Société canadienne des orthodontistes

Une réunion de deux jours est prévue pour jeudi et vendredi, les 2 et 3 juillet au Centennial Concert Hall.

Jeudi, le 2 juillet

9h.00 Réunion d'affaires. Membres actifs
13h.30 B. F. Dewel, Evanston, Illinois: Extractions systématiques en série; précautions et exigences préalables (Conférence Grieve Memorial)
15h.00 R. Thurow, Madison, Wisconsin: La mécanique du mouvement des dents: étude analytique simplifiée

Vendredi, le 3 juillet

9h.00 B. F. Dewel, Evanston, Illinois: Traitement des dentitions mixtes en orthodontie
10h.30 R. Thurow, Madison, Wisconsin: Anatomie, fonction et dimension verticale
13h.30 J. F. Cleall, le personnel enseignant et les étudiants du département d'orthodontie, Université du Manitoba: Présentations et démonstrations cliniques

L'Académie canadienne de pédodontie

La Société canadienne de dentisterie pour les enfants

Les deux groupes organiseront conjointement une réunion de deux jours jeudi et vendredi, les 2 et 3 juillet. Les séances sont ouvertes à tous les délégués du congrès.

Jeudi, le 2 juillet

- 9h.15 T. K. Barber, Los Angeles:
Croissance et développement
- 13h.30 B. F. Dewel, Evanston, Illinois:
Extractions systématiques en série; précautions et exigences préalables (Conférence Grieve Memorial)
- 14h.30 Norman Levine, Toronto: Dents surnuméraires
- 14h.30 Démonstration clinique par C. G. Shapera, Winnipeg: Conditions buccales chez les enfants du Manitoba
- 15h.30 W. J. Simpson, Edmonton:
Pulpotomie des dents temporaires

Vendredi, le 3 juillet

- 9h.15 T. K. Barber, Los Angeles:
Orthodontie modificatrice prophylactique
- 14h.30 Conférencier (sujet et thème à communiquer)
- 15h.30 Réunion d'affaires de l'Académie canadienne de pédodontie

L'Académie canadienne de prosthodontie

Le programme provisoire annoncé consiste en une réunion d'un jour prévue pour le mercredi 1^{er} juillet, à l'hôtel Fort Garry.

Mercredi, le 1^{er} juillet

- 8h.30 I. Kleinberg, S. M. Borden et C. G. Ibbott, Winnipeg: Aspects périodontiques des prothèses partielles amovibles
- 10h.45 C. G. Dowse et J. Stakiw, Saskatoon: Physiologie musculaire et la dimension verticale conséquent du visage
- 14h.00 W. B. Love, Winnipeg: Morphologie et physiologie de la région palatale postérieure corrélatives à la prosthodontie
- 15h.05 W. T. Harley, Edmonton: Sujet à communiquer
- 16h.15 Réunion d'affaires

L'Académie canadienne de dentisterie de restauration

Une réunion de deux jours est prévue pour lundi et mardi, les 29 et 30 juin, à la Faculté de chirurgie dentaire de l'Université du Manitoba, 780 avenue Bannatyne.

Lundi, le 29 juin

- 8h.30 Inscription
- 9h.00 W. W. Pressey, Toronto: Les principes gou-

vernant les anesthésiques en dentisterie restauratrice

- 10h.20 M. D. Jones, Edmonton: Considérations esthétiques en céramique dentaire
- 11h.00 W. R. Scott, Vancouver:
Attachements de précision
- 14h.00 Z. Kasloff, Winnipeg: Remarques sur l'art dentaire en Europe
- 14h.30 Panel: Peut-on améliorer la coopération entre le technicien dentaire et le dentiste?
- 18h.00 Activité récréative

Mardi, le 30 juin

- 8h.30 Inscription
- 9h.00 B. L. Mendel, Montréal: Considérations périodontiques en dentisterie restauratrice
- 9h.45 A. J. Shinoff, Winnipeg: Nouvelle méthode de retention à l'aide de tenons
- 11h.00 G. H. Gibb, Edmonton: Restaurations de Classe III et de Classe IV
- 11h.45 G. L. Locke, Calgary: Problèmes esthétiques en réhabilitation orale
- 14h.00 A. H. Cottick, Winnipeg: Il n'est jamais trop tard
- 14h.40 Réunion d'affaires
- 18h.00 Banquet annuel

La Société canadienne des dentistes hygiénistes

Une réunion de deux jours est prévue pour vendredi et samedi les 3 et 4 juillet. Les directeurs des services dentaires provinciaux ainsi que les directeurs des départements d'hygiène dentaire publique des universités canadiennes sont invités à assister à la réunion du Bureau des Gouverneurs, du 29 juin au 1^{er} juillet, afin de s'informer des révisions des règlements de l'ADC et d'autres questions importantes.

Vendredi, le 3 juillet

- 9h.00 J. M. Conchie, Surrey, CB; J. V. P. Chatwin, Ottawa; A. B. Sutherland, Sudbury:
Le fluor dans la pratique dentaire
- 10h.00 Réunion d'affaires
- 11h.00 J. E. Purdie, Brandon et W. M. Sinclair, Dauphin, Man.: Techniques d'éducation en hygiène dentaire
- 14h.00 I. Kleinberg, Winnipeg; Paul Goldhaber, Boston; I. D. Mandel, New York; L. M. Golub, Winnipeg:
Application clinique de la recherche fondamentale
- 15h.00 Films (dans le Centennial Hall)

Samedi, le 4 juillet

- 10h.30 Présentation de l'ADC: Le rôle du personnel dentaire connexe au Canada
- 14h.00 Démonstration clinique par C. G. Shapera, Winnipeg: Conditions buccales chez les enfants du Manitoba. (Cette démonstration est organisée conjointement par la Société canadienne des dentistes hygiénistes et par le chapitre manitobain de la Société canadienne de dentisterie pour les enfants.)

Registration

National Convention
Canadian Dental Association
Winnipeg, July 1-4, 1970

Please print or type requested information

Surname _____

First name _____

Wife's name (if attending) _____

Address _____

City _____

Province _____

Executive or honorary status in provincial, state,
national or international organizations — specify

I am attending:

- ☐ Board of Governors meeting
- ☐ _____ CDA specialty section
- ☐ general convention only
- ☐ I would like to play golf
- ☐ Please send me information to help with the
following vacation plans: _____

Convention fee \$40 includes three luncheons,
Wednesday welcoming party and Saturday wind-
up party

Ladies' convention fee \$15 includes Wednesday
welcoming party, Thursday lunch, Friday recep-
tion and tour, Saturday brunch and wind-up party

President's ball, Thursday night, \$20 per couple

Accommodation requirements:

- | | |
|--|---------------------------------------|
| ☐ Hotel \$12-18 | ☐ Not required |
| ☐ Hotel \$18-25 | ☐ Single |
| ☐ Motel \$13-18 | ☐ Double |
| ☐ Motel \$18-25 | ☐ Twin |
| | ☐ Suite |

Number in family _____

Arrival date _____ Time _____

Departure date _____ Time _____

Mail completed registration form and cheque to:
CDA-MDA Convention, 308 Kennedy St, Winnipeg
2, Man.

Inscription

Congrès National
l'Association Dentaire Canadienne
à Winnipeg
les 1, 2, 3 et 4 juillet 1970

*Veillez remplir cette formule en lettres moulées
ou par dactylographie*

Nom _____

Prénom _____

Nom de l'épouse _____

Adresse _____

Ville _____ Province _____

Fonction dans un organisme provincial, national
ou international — précisez _____

J'assisterai:

- ☐ à la réunion du Bureau des Gouverneurs
- ☐ à la section de spécialité de l'ADC _____

☐ au congrès général seulement

☐ J'aimerais jouer au golf

☐ Veuillez m'envoyer des renseignements pour
les préparatifs de vacances suivantes _____

Frais de congrès, \$40, comprenant trois dé-
jeuners, soirée d'accueil mercredi, soirée de
clôture samedi

Frais de congrès pour dames, \$15, comprenant
soirée d'accueil mercredi, déjeuner jeudi, récep-
tion et excursion vendredi, collation et soirée de
clôture samedi

Bal du Président, jeudi soir, \$20 par couple

Logement:

- | | |
|--|---------------------------------------|
| ☐ hôtel \$12-18 | ☐ non demandé |
| ☐ hôtel \$18-25 | ☐ lit simple |
| ☐ motel \$13-18 | ☐ lit double |
| ☐ motel \$18-25 | ☐ lits jumeaux |
| | ☐ suite |

Nombre de personnes _____

Date d'arrivée _____ heure _____

Date de départ _____ heure _____

Veillez remplir cette formule et la renvoyer avec
votre chèque au Secrétariat de la "CDA-MDA
Convention", 308 Kennedy St, Winnipeg 2, Man.

Dentistry in the news

The Association

CDA representatives at Ottawa session on prices

Two hundred and fifty top-flight business leaders and representatives of many professions concluded an intensive two day meeting in Ottawa February 10 with a general agreement on a program of price restraint that would run until the end of the year.

Executive Director W. G. McIntosh and President-elect W. J. Spence represented the Canadian Dental Association at the meeting which was called by the Prices and Incomes Commission.

The agreement tentatively commits business firms to reduce the number and size of price increases they would normally make in 1970. And it specifies that price increases made by business should be less than the actual cost increases contributing to the price increases.

While the agreement was reached with a great sigh of relief by both the commission and most of the delegates, business leaders made it clear their support was not unqualified.

They castigated labour for its initial refusal to support the restraint program and its continued excessive wage demands and attacked federal and provincial governments for not putting a freeze on spending.

But the basic attitude of business leaders attending the conference was that the idea had to be tried and that perhaps the alternative for Canada was a recession, resulting from even harsher tightening of monetary and fiscal brakes.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on January 31:

Government Bond Fund \$13.578;

Corporate Bond Fund \$14.879;

Common Stock Fund \$23.930.

Total assets (market value) of the plan were \$9,164,754.55.

The following portfolio purchases and sales occurred during the preceding month: bought 7,000 shares Western Broadcasting; 2,300 shares AGT Data Systems Ltd; 2,000 shares Canadian Tire Corp A; 2,000 shares Hiram Walker Gooderham and Worts; 2,200 shares Dustbane Enterprises; 2,000 shares American Express Co; and 3,500 shares Royal Bank of Canada; sold 5,000 shares Steinbergs Ltd A; 2,500 shares Western Broadcasting preferred; 1,000 shares Barnes Hind Pharmaceutical; 5,000 shares Continental Telephone Corp; and 2,000 shares Celanese Corp.

For further information please write to CDA-sponsored Retirement and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

J. M. LeClair: new Deputy Minister of National Health

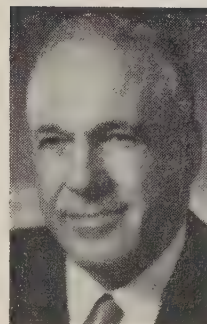
J. Maurice LeClair has been appointed deputy minister of national health, succeeding J. N. Crawford who retired last August.

After serving as associate professor of medicine at the Université de Montréal, Dr. LeClair, 42, was appointed in 1965 to the medical faculty of the University of Sherbrooke and became dean in 1968.

Dr. LeClair has been active in the National Cancer Institute. He is also vice-president of the Medical Research Council of Canada and of the Association of Canadian Medical Colleges.

Bower named Denco board chairman, Tevendale promoted to president

M. E. Bower, president of the Dental Company of Canada Ltd (Denco), a subsidiary of the American Hospital Supply Corporation, has been elected chairman



M. E. Bower



J. C. Tevendale

of the board of Denco. J. C. Tevendale, executive vice-president of Denco, succeeds Mr. Bower as president and chief executive officer.

Mr. Bower joined Denco in 1928. He was promoted to general sales manager in 1940 and to vice-president in 1946. In 1952 he was elected president. He helped in the formation of the Canadian Fund for Dental Education and, in 1967, became the first Canadian layman to be named a fellow of the International College of Dentists.

Mr. Tevendale joined Denco in 1946. After holding various posts in Calgary and Winnipeg, he was elected Denco's executive vice-president in 1965.

International Items

Soviet dentists join FDI

Three new national dental organizations have become members of the Fédération Dentaire Internationale. They are the Presidium of the All-Union Medical Scientific Society of Stomatologists of the USSR and the dental associations of Ecuador and Nicaragua. Their applications were approved at the FDI's 57th annual session in New York last October.

Also approved was an application for affiliate membership by the International Association of Oral Surgeons.

The FDI now has 71 member associations in 62 countries in addition to three affiliate members.

Individual supporting members total 7,667, including 61 life members.



C. Gordon Watson



Harold Hillenbrand

Dr. Watson succeeds Dr. Hillenbrand as ADA chief executive

C. Gordon Watson on January 1 assumed the post of executive director of the American Dental Association. He succeeded Harold Hillenbrand, who retired after being chief executive officer of the 112,000 member association since 1946.

Dr. Watson had previously served as ADA assistant secretary for four years before accepting the position of executive director of the Southern California Dental Association on January 1, 1964. It was while serving in that capacity that he was chosen to become chief executive officer of the ADA.

Dr. Hillenbrand, under whose direction the ADA membership has grown from approximately 65,000 in 1946 to 112,000 in 1969, has been named the association's first executive director emeritus and has been elected to honorary membership for his extraordinary contributions to the dental profession.

Study of US dental laboratory industry launched

The American Dental Association and the Battelle Memorial Institute in Columbus, Ohio, have signed a contract for a one year study of the potentialities of modern technology in the dental laboratory industry. The objectives of the study are as follows:

To investigate production procedures and practices now used in dental laboratories;

To assemble information on new materials, processes and procedures that might be useful in dental laboratories. For example, analysing present processes in the space industry for adaptation to the dental laboratory industry;

To evaluate technically and economically the more promising of these materials, processes and procedures;

To provide a report and resulting recommendations to assist dental laboratories.

Emphasis will also be placed on studies of the economic structure and organization of the dental laboratory industry.

Syracuse, NY workshop will consider hospital dental program

Participants attending an April 2-3 workshop on "Hospital-Centered Dental Care" will discuss the development of an ideal dental program for the hospital from the viewpoint of costs, maintenance, interprofessional relations, staff participation and training programs.

One session will have as its theme "Providing a Dental Service for your Hospital."

A special session on "Dental Care and the Hospital Patient" will include discussion on outpatient dental anaesthesia, maxillofacial rehabilitation in the patient with oral cancer, and management of patients with physical handicaps.

The workshop, to be held at the State University Hospital of the Upstate Medical Centre in Syracuse, New York, is sponsored by the Dental Society of the State of New York and the State University Hospital.

For further information, please write to L. H. Steinholtz, State University Hospital, Upstate Medical Centre, Syracuse, NY 13210, USA.

Dental Organization

Doctor Shinoff heads Manitoba Association

A. J. Shinoff, Winnipeg, was installed as president of the Manitoba Dental Association at the group's annual convention January 23-24. He succeeds F. Ollinik, Morden.

Other members of the executive board are D. B. Proctor, Winnipeg, vice-president; M. J. Snidal and S. M. Claman, Winnipeg; and D. K. Hurst, Brandon. G. W. Danzinger, Winnipeg, was re-elected registrar. R. H. McIntyre, Winnipeg, continues as secretary-treasurer.

In other actions:

The convention learned that the Manitoba Dental Association is awaiting a response to its invitation that the provincial government nominate a lay representative to the association's Media Committee.

The delegates approved a move to enlarge the MDA's executive board from six (four from Winnipeg, two from outside Winnipeg) to nine directors (six from Winnipeg, three from outside). This proposal will be included when the association drafts the text of a new provincial dental act. The draft will be submitted to the legislature later this year or in 1971.

The association has set up a new committee on auxiliary affairs under D. W. Grenkow, Winnipeg. This group will invite submissions from dentists, dental hygienists and dental assistants. It will also study the relationship between dentists and dental auxiliaries else-

where in the world. Its conclusions, after consideration by the MDA executive board, may be incorporated in the draft of the new dental act.

The delegates also voted to accept a pilot prepaid dental care plan for the employees and families of MDA members. The plan, offered by the London Life Insurance Company and based on the MDA fee schedule, has three options: basic coverage for preventive dental care, and supplementary options covering 50 per cent of the cost of orthodontic treatment and restorative treatment. Cost of the basic plan for a family is \$7.50 per month. Premiums for each option are \$2.50.

Montreal Club elects Doctor Dundass

G. M. Dundass is the new president of the Montreal Dental Club. Elected at the Montreal Club's seventy-second annual meeting, he succeeds H. L. Mussells who has been named honorary president. E. S. Dorion is president-elect.



G. M. Dundass

Other officers are: W. Lambert, treasurer; R. W. Faith, historian; H. Smart, chairman of the Fall Clinic; and J. D. Fenwick, secretary.

Elected as directors are: Marcel Hébert, James McCutcheon, John Vincelli, W. H. Boyles, J. F. Giacomelli and P. L. Samis.

Lethbridge dentists elect officers

The new president of the Lethbridge and District Dental Association is J. A. Sherman who succeeds B. W. Matkin. V. E. Christou is vice-president and L. C. Matheson is secretary-treasurer.

Dental Education

French-speaking New Brunswick students to study in Quebec

French-speaking students from New Brunswick will be able to study dentistry and medicine in their own lan-

guage under a new agreement which guarantees them places in Quebec universities.

New Brunswick Dental Society President L. G. Zed, Saint John, says that the arrangement for the University of Montreal to accept up to five French-speaking students from New Brunswick each year in its dental school will be a "great help—any additional dentists will be a help."

He adds, however, that it may not be possible to fill all the available vacancies unless students receive bursaries or other financial help. The New Brunswick society will therefore ask the province to set up such a system of bursaries.

Dentists push CFDE to new heights

Dentists are responding to the increasing need for more dental teachers and research. Their contributions to the Canadian Fund for Dental Education last year increased by 36 per cent, says D. Murray McDonald, CFDE executive director.

Personal contributions by 1,367 dentists brought \$25,660 to the Fund in 1969. Dental organizations and companies also maintained an impressive level of support for CFDE, contributing \$30,367 and \$23,655 respectively.

CFDE's 1969 investment in teaching fellowship awards increased to \$38,960, providing assistance for 23 dentists and one dental hygienist in their pursuit of dental teaching and research careers during 1969. In addition, the Fund continued to award unrestricted grants to Canada's 10 dental schools. Since 1965, CFDE has given \$34,000 through these unrestricted grants.

Notable among the Fund's other achievements for 1969 are the financing of a student field training program conducted by the Dalhousie Faculty of Dentistry, and funding of the first Canadian Dental Students' Conference held at CDA Headquarters in Toronto.

Dalhousie University may repeat summer project

Dalhousie University, Halifax, may repeat a summer project which provided field training for undergraduate dental students last year.

Purpose of the exercise was to supplement academic instruction in social and public health dentistry with a period of practical experience in a community in order to acquaint students with dental health needs and available methods for meeting these needs.

The project, largely financed by the Canadian Fund for Dental Education, utilized Tatamagouche, a small Nova Scotia community, as teaching and demonstration laboratory. Its objectives



During a recent meeting of the Council on Research at CDA Headquarters, February 12-13, participants broke up into small informal groups to discuss current issues in dental research. Pictured above, from left, are: J. F. Cleall, Winnipeg; H. G. Poyton and R. C. Burgess, Toronto; L. E. Francis, council chairman, Montreal; and D. S. Moore, London. The council will ask the Board of Governors to reaffirm its support for water fluoridation at the CDA national convention in Winnipeg, July 1-4.

were threefold: (1) to expose the students to social groups with limited dental knowledge and opportunity; (2) to develop in the students an awareness of their social responsibility; and (3) to take advantage of an available source of dental manpower (undergraduate students) presently not being utilized during the summer months.

Through practical programs like these the Canadian Fund for Dental Education is assisting dental education.

Finnish orthodontist lectures at Western U

Kalevi Koski, professor and chairman of the Department of Paediatric Dentistry, Institute of Dentistry, Turku, Finland, was a guest lecturer at the Faculty of Dentistry of the University of Western Ontario, London, during the week of January 12.

Doctor Koski conferred with the staff of the Department of Paediatric Dentistry on the teaching of undergraduate orthodontics. He also gave a seminar on cartilage implants.

Educational opportunities

Continuing education

McGill University Faculty of Dentistry, Montreal, offers two postgraduate courses in May. The first course on dentistry for the child patient will be held May 4-6 with a tuition fee of \$150. Practical periodontics for the general

practitioner is the subject of the second course, May 7-9, and the fee is \$175. Direct inquiries to O. P. Sykora, Faculty of Dentistry, McGill University, 3640 University Ave, Montreal 112, Que.

Economics

Minister cautions Manitoba dentists

Be prepared—that was the message Manitoba's former health minister left with members of the Manitoba Dental Association when he spoke to them at their midwinter convention in Winnipeg January 23.

Sidney Green, now mines minister, is on the committee of the provincial legislature engaged in resolving the con-

troversty between Manitoba's illegal mechanics and the dental association.

He said there is a crying need to make dental services more widely available. That is why some people had bypassed the legitimate dentists to seek treatment from mechanics.

Mr. Green said the state could not condone a situation whereby one standard of dental care is available to some citizens but not to others. The state must have the power to enforce that standard for all.

The former health minister was also critical of existing legislation which "allows the professions to conduct their own prosecutions and secure their own convictions."

In the field of dental treatment, he said, there may be room for people "trained in less than the full field of dentistry." Whether such persons should operate within the ambit of the profession or independently is the problem which the legislative committee is trying to resolve.

Remote areas fail to attract Ontario dentists

No dentists have applied for \$22,000 a year provincial contracts to provide dental services for remote Ontario communities, according to Provincial Health Minister Thomas Wells.

In another scheme to fill dental needs in isolated communities, Mr. Wells said, 23 dental students have been awarded bursaries worth \$3,000 a year. They have agreed to serve one year in a designated area for each year in which they get bursary assistance.

There are also Czech dentists taking a retraining course financed by provincial and federal governments at the University of Western Ontario. They will be required to practise in an area of Ontario without a dentist after they pass the course at Western.

Physicians to hold the line on fees

The Canadian Medical Association has asked its 21,000 members across Canada not to raise their professional fees during Ottawa's fight against inflation.

The CMA proposal is part of a nation-wide effort to gain acceptance of voluntary restraints on prices and incomes in an effort to break the inflationary cycle gripping the economy.

Spokesman for medical associations in Alberta, Manitoba and Nova Scotia said they will comply with the CMA's request to delay fee increases as an anti-inflation measure.

The president of the Saskatchewan Medical Association said the appeal is being considered, but noted that general practitioners now are leaving the

province because of a lack of financial incentive.

He declined to say how big an increase the SMA is seeking in current fee scale negotiations with the Saskatchewan Medical Care Insurance Commission.

Despite the national association's hold-the-line proposal, CMA President R. M. Matthews said that increases in medical fee schedules do not produce inflation, because they are based on past increases in the cost of living — not on anticipated increases. They are running 15 to 24 months behind inflation. In recent years fee increases have followed the economy, not led it, he said.

The New Brunswick Medical Society made some changes in its fee schedule about a year ago and does not plan any further change at present.

British Columbia physicians are now negotiating for fee increases which would come into effect on January 1, 1971, and physicians in other parts of the country — including Ontario — will be looking again at their fee schedules next year, which on the average are adjusted upwards every two to three years.

Hospital radiologist allowed to deduct certain business expenses

A recent court ruling could mean that physicians or dentists who practise under contract with a hospital may in future be able to deduct certain expenses incurred in earning their income. The question arises from a decision by the Exchequer Court of Canada in a case, *Alexander vs Minister of National Revenue*, given December 22, 1969.

The appellant, a radiologist who works in the Trenton (Ontario) Memorial Hospital, was required to administer his department and provide professional services for which he was paid by the hospital less a 5 per cent deduction for uncollected accounts. At issue was the appellant's right to deduct automobile expenses for attending radiology seminars at Queen's University, Kingston.

The validity of his claim turned on whether the contract was an agreement for services (in which case the doctor's payments from the hospital would be classed as earned fees and he would be entitled to general deductions under section 12[1a] of the Income Tax Act) or an agreement for service (in which case, as an employee, he would be bound by the limitations of section 5[1]).

In allowing the appeal, the court ruled that the agreement had the character of a "contract for services" and the doctor was therefore not an employee or servant of the hospital.

The court also found that the appellant attended the seminars to keep up with rapidly changing developments in

the field of radiology and ruled that his travelling expenses were deductible as having been incurred for the purpose of earning income from his profession.

Quebec association requests dental coverage for welfare recipients

A spokesman for the Quebec Dental Surgeons' Association has reiterated the group's demand for the inclusion of dental care for welfare recipients. The QDSA wants this coverage included when Quebec initiates its medicare scheme July 1.

In a press release issued February 5, the association said that welfare recipients should be entitled to comprehensive dental care and that covered services should be insured irrespective of who provides them. Up to now, the government has only paid for dental services rendered by physicians.

Fluoridation

6.6 million Canadians drink fluoridated water

As 1969 began, 6,614,000 Canadians were using fluoridated water daily, including 200,000 using water containing naturally occurring fluoride. These persons lived in 520 communities, served by 533 piped drinking water systems. Percentages of population using these supplies represent 30.9 per cent of the population of Canada and 44.3 per cent of the possible total for fluoridation (those on piped drinking water).

Among provinces and territories, Manitoba is the leader in percentage of total population using water fluoridation with 62 per cent, followed by Ontario with 55.3 per cent and the Northwest Territories with 52.4 per cent.

Toronto has record-low cavities since fluoridation

Toronto children who have drunk fluoridated water since birth have fewer cavities than any previous kindergarten group in the city's history, Toronto's director of dental services said February 2.

James McGaughey said in an interview that 59 per cent, or six of 10 children in the affected group, were without cavities requiring restoration, compared to 43 per cent, or four in 10, in 1958 surveys.

When fluoride was first added to the water supply in September 1963, Doctor McGaughey said, the rate of kindergarten children who had never suffered a cavity was 27 in 100. In 1968, he said, it had risen to 43 in 100.

Those with cavities in the 1968 check had fewer of them — 1.3 in 1968 com-

pared to 2.54 cavities in 1958.

Doctor McGaughey said that by 1968 the percentage of five year olds who had lost primary teeth through decay had been cut in half, dropping to 12.5 per cent from 25 per cent in 1963.

He attributed most of the improvement to fluoridation. Other children have shown some improvement in recent years but not the substantial decrease in tooth decay seen in the children born since 1963.

Although pleased with the figures, he said it will be 1975 or 1976 before the full benefits of fluoridation are determined when the first group of children born after 1963 will have their 12 year molars.

Public Health

"Murphy the Molar" takes a bow

Elmer the Safety Elephant has a new friend. He is Murphy the Molar — a cartoon character of a living tooth.

Murphy, whose slogan is "Don't be a Tooth Goof," is the key figure in a new dental health campaign sponsored by the Ontario Department of Health. He is represented on lapel buttons, posters and cardboard stand-up figures designed to appeal to students in grades one through three.

Murphy was developed jointly by the health education and public health dentistry services of the provincial health department in cooperation with S. M. Green, dental director for the Metropoli-



tan Toronto borough of Etobicoke and nearby Halton County.

Health officials hope that Murphy will be as successful dentally as Elmer the Elephant has been in stressing road safety.

Murphy's initial introduction began January 15 to 7,000 children in Etobicoke and parts of nearby Halton County. He will be in all schools in the province next September, if the trial campaign is a success.

National Health Week March 8-14

Canada's 26th annual National Health Week will be observed March 8-14. The Health League of Canada sponsors Health Week in cooperation with departments of health and education and many other organizations across the country. Continuing education to promote and conserve health by all possible means is stressed during Health Week by radio, television, newspaper and magazine coverage and by talks given to service clubs and other organizations.

Awards and Appointments

A. J. Shinoff, newly elected president of the Manitoba Dental Association, recently received the "President's Award of Merit" for 1969 "in recognition of his significant personal contribution to the welfare of his fellow dentists."



A. J. Shinoff

A native of Winnipeg, Doctor Shinoff graduated from the University of Toronto in 1946. He is a former president of the Winnipeg Chapter, Alpha Omega Dental Fraternity, and has served as a member of the Board of Directors of the Manitoba Dental Association for the past four years.

Swan River in Northwestern Manitoba recently elected a new mayor. He is **L. F. Matthews**, a dentist.

Two Winnipeg dentists, **D. M. Botting** and **D. W. McCord**, were elected honorary life members of the Manitoba Dental Association on January 24.

Two hundred persons attended a banquet in Stettler, Alberta, December 9 and accorded Doctor and Mrs. **L. H. Wright** a standing ovation in acclaiming them Stettler "Citizens of the Year." The award, made by the local Board of Trade, is the highest honour the town confers upon its citizens.

Doctor Wright, a graduate of the Royal College of Dental Surgeons of Ontario, practised in Gleishen, Alberta, for a short time before moving to Stettler almost 40 years ago. He retired from active practice last July. Mrs. Wright is a news correspondent for the *Edmonton Journal* and other papers in addition to being an elocution teacher and town statistician.

Deaths

deRenzy, Hubert Willard. 90. Calgary, Alta. Royal College of Dental Surgeons of Ontario, 1902. 27-12-69. Survived by Minnie May (sister); Edward (nephew); Mrs. Robert Hawkins and Miss Helen deRenzy (nieces); four great-nieces and two great-nephews.

Gosse, Joseph Roland. 65. New Westminster, BC. North Pacific College, University of Oregon, 1926. 2-2-70. Survived by Ena (wife); Edward (son); Mrs. J. T. Smith (daughter); four grandchildren; and four sisters.

Johnson, George Nelson McPhaden. 65. Cannington, Ont. University of Toronto, 1930. 5-1-70.

Kut, Samuel John. 50. South Burnaby, BC. University of Alberta, 1953. 27-1-70. Survived by Luba (wife); John and David (sons); Mrs. Vladimire Shumuk and Darcia (daughters); Mrs. William Mudry (mother); and Mrs. Koziak (sister).

Murray, William Spencer. Edmonton, Alta. University of Alberta, 1936. 14-1-70. Survived by Dorothy (wife); Mrs. Joan Fulton (daughter); John and Bruce (sons); Donald and John (brothers); and three grandchildren.

Paul, William Andrew Marr. 74. Tweed, Ont. Royal College of Dental Surgeons of Ontario, 1924. 30-1-70. Survived by Constance (wife); David and Ian (sons); Sandra and Timothy (grandchildren); and Fraser (nephew).

L'Association

Les délégués de l'ADC participent à la conférence d'Ottawa sur les prix

Le Directeur général W. G. McIntosh et le Président désigné W. J. Spence ont représenté l'Association Dentaire Canadienne à la conférence nationale sur la stabilisation des prix les 9 et 10 février à Ottawa. C'est la Commission des prix et revenus qui avait convoqué cette réunion afin de faire appuyer les restrictions sur les prix durant l'année 1970. Y assistaient quelque 250 hommes d'affaires et les représentants de plusieurs professions, dont la médecine, le droit, la dentisterie, l'architecture, la comptabilité, le génie et les soins infirmiers.

Le programme de restrictions prend de plus en plus une tournure psychologique dans la campagne fédérale contre l'inflation. Quelques jours avant, à Québec, les ministres fédéral et provinciaux des finances avaient déjà discuté, entre autres, des moyens de maîtriser la flambée des prix dans le domaine de l'éducation, des soins médicaux et de l'assistance sociale.

M. John Young, président de la Commission, a annoncé qu'il s'efforcera d'obtenir l'adhésion des travailleurs à un programme de restriction des salaires. Il a dit que la restriction des prix ne saurait porter de fruit sans la restriction des salaires, mais les chefs syndicaux se sont vivement opposés aux limitations salariales.

L'ADC prépare un mémoire sur la réforme fiscale

L'Association Dentaire Canadienne a soumis au gouvernement fédéral un mémoire exposant sa position sur le Livre blanc de la réforme fiscale publié le 7 novembre dernier. Préparé pour le sous-comité de la taxation du Conseil Exécutif (H.N. Beach, président, E.J. Siegel et W.J. Spence) avec l'aide du département fiscal des nouveaux conseillers juridiques de l'ADC, la firme Shibley, Righton et McCutcheon, le do-

cument a été examiné par le Conseil Exécutif lors de sa réunion du 23 au 26 février.

L'Ile-du-Prince-Edouard fixe sa contribution à \$65

L'Association Dentaire de l'Ile-du-Prince-Edouard a décidé d'élever à \$65 sa contribution annuelle per capita à l'Association Dentaire Canadienne.

Par conséquent, six provinces — la Colombie britannique, l'Alberta, le Nouveau-Brunswick, Terre-Neuve, la Nouvelle-Ecosse et l'Ile-du-Prince-Edouard versent présentement \$65. La Saskatchewan verse \$55, le Manitoba \$50, le Québec et l'Ontario \$40 seulement par dentiste.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 janvier:

Fonds d'obligations gouvernementales \$13,578;

Fonds d'obligations corporatives \$14,879;

Fonds d'actions ordinaires \$23,930.

L'avoir total (valeur marchande) du régime se montait à \$9,164,754.55.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 7,000 actions de Western Broadcasting; 2,300 actions de AGT Data Systems Ltd; 2,000 actions de Canadian Tire Corp A; 2,000 actions de Hiram Walker Gooderham and Worts; 2,200 actions de Dustbane Enterprises; 2,000 actions de American Express Co; et 3,500 actions de la Banque Royale du Canada; vente 5,000 actions de Steinbergs Ltd A; 2,500 actions privilégiées de Western Broadcasting; 1,000 actions de Barnes Hind Pharmaceutical; 5,000 actions de Continental Telephone Corp; et 2,000 actions de Celanese Corp.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Le Canada

Accès plus facile des immigrants aux corps professionnels

Dans un communiqué remis à la presse, le ministre de l'Immigration du Québec, M. Mario Beaulieu, a annoncé qu'un projet de loi-cadre visant à faciliter l'accès des immigrants aux corps professionnels serait présenté à l'Assemblée nationale durant la prochaine session. La nouvelle loi fera disparaître la clause qui exige que les immigrants obtiennent leur citoyenneté avant d'être admis à l'exercice des professions.

Il faut remarquer que notre profession a devancé les autres corporations professionnelles et que le Collège des Chirurgiens-Dentistes de la Province de Québec modifiait déjà ses règlements en 1967. Un immigrant détenteur d'un diplôme dentaire autre que celui décerné par une université nord-américaine a donc le droit de prendre un examen de compétence et, si il le réussit, de pratiquer la chirurgie dentaire au Québec sans être citoyen canadien.

Chronique internationale

Le Dr Watson succède au Dr Hillenbrand à la tête de l'ADA

C. Gordon Watson a assumé le 1er janvier les fonctions de directeur général de l'Association Dentaire Américaine. Il succède à Harold Hillenbrand qui prend sa retraite après avoir dirigé l'Association depuis 1946.

Le Dr Watson avait déjà été secrétaire adjoint de l'ADA pendant quatre ans avant d'accepter le poste de directeur général de l'Association Dentaire de la Californie du sud, le 1er janvier 1964. C'est alors qu'il occupait ce poste qu'il fut choisi pour devenir le principal responsable de l'ADA.

Le Dr Hillenbrand, sous la direction duquel l'ADA est passée d'environ 65,000 membres en 1946 à 112,000 en 1969, est devenu le premier directeur général honoraire de l'Association et a

été élu membre honoraire en raison de sa contribution exceptionnelle à la profession dentaire.

Les soviétiques adhèrent à la FDI

Trois organismes dentaires nationaux sont devenus membres de la Fédération Dentaire Internationale. Il s'agit de la Société Médicale Scientifique des Stomatologistes de l'URSS ainsi que des associations dentaires de l'Equateur et du Nicaragua. Leur adhésion a été approuvée à la 57e session annuelle de la FDI à New York en octobre dernier.

La demande d'affiliation de l'Association Internationale des Chirurgiens Buccaux en tant que membre adhérent a été également approuvée.

La FDI groupe maintenant 71 associations membres appartenant à 62 pays, plus trois membres adhérents.

Les membres sympathisants atteignent un total de 7,667, y compris 61 membres à vie.

L'enseignement

Des francophones du Nouveau-Brunswick pourront faire leurs études au Québec

Des étudiants francophones du Nouveau-Brunswick pourront étudier la chirurgie dentaire et la médecine dans leur langue, grâce à un nouvel accord qui leur garantit des places dans les universités du Québec.

Le Dr L.G. Zed, de Saint-Jean, président de la Société Dentaire du Nouveau-Brunswick, déclare que l'entente selon laquelle la faculté de chirurgie dentaire de l'Université de Montréal acceptera chaque année jusqu'à cinq étudiants francophones du Nouveau-Brunswick "nous rendra grand service - tout nouveau dentiste nous sera d'un grand secours."

Il ajoute cependant que les places ne seront peut-être pas toutes occupées si les étudiants ne reçoivent pas de bourses ou d'aide financière. La société du Nouveau-Brunswick demandera donc à la province de créer un système de bourses.

Les organisations dentaires

Pour un organisme de dentisterie médico-légale

Deux dentistes torontois, J.D. Purves et K.F. Pownall, espèrent grouper dans un organisme national les dentistes qui s'intéressent à la dentisterie médico-légale. Celle-ci concerne la manipula-

tion et l'examen des preuves dentaires ainsi que la présentation des constatations dentaires en jurisprudence.

Le Dr Purves trouve que les parents, les assureurs, les forces de l'ordre et les historiens demandent de plus en plus l'aide des dentistes pour identifier des ossements. Selon lui, les dents et les restaurations dentaires sont un moyen précieux d'effectuer une identification positive à cause de leur quasi indestructibilité.

La Fédération Dentaire Internationale possède déjà un sous-comité de six membres qui s'occupe d'odontologie médico-légale. Des organismes semblables existent dans les pays scandinaves et au Japon. Le groupe canadien, dit le Dr Purves, pourrait se joindre aux autres pour favoriser l'étude et l'expansion de la dentisterie médico-légale dans le monde entier.

Les lecteurs qui s'y intéressent sont invités à écrire à J.D. Purves, 170 rue St. George, Toronto 180, ou à K.F. Pownall, Régistraire, Collège Royal des Chirurgiens Dentistes de l'Ontario, 230 rue St. George, Toronto 180.

L'économie

La question des mécaniciens s'envenime au Manitoba

Un des dirigeants des mécaniciens dentaires du Manitoba aurait déclaré que certains de ses collègues continueraient leur pratique illégale si le gouvernement provincial ne légalisait pas leurs activités. Il a déclaré en décembre dernier, devant un comité spécial de la législature sur les services dentaires, que certains mécaniciens peuvent être tentés de pratiquer en dehors de leur domaine actuel si les contrôles ne sont pas uniformisés pour tous. Il a annoncé au comité que ses collègues et lui accepteraient un programme comportant deux ans de formation technique et deux ans d'apprentissage pour les nouveaux mécaniciens ainsi que le recyclage des mécaniciens déjà en activité moyennant l'autorisation de continuer à faire et à ajuster les dentiers pendant leur recyclage.

A.J. Shinoff, président de l'Association Dentaire du Manitoba, aurait averti le comité que la Manitoba Denture Clinic, organisée par les dentistes en 1960 pour offrir des soins professionnels de prothèse à bas prix sans imposer de vérification des ressources financières, risquerait de fermer ses portes si le gouvernement provincial permettait aux mécaniciens d'effectuer légalement le travail des dentistes.

Le Dr Shinoff a déclaré que l'Association provinciale avait récemment suspendu les poursuites contre les mécaniciens lorsque l'on croyait qu'une nouvelle loi était en préparation, mais que

pendant ce moratoire les mécaniciens s'étaient "multipliés comme des lapins".

Cette controverse sur la question des mécaniciens remonte à l'époque d'un comité antérieur qui avait conclu en 1964 que "les dentistes devaient conserver le contrôle complet et être pleinement responsables de la santé buccale du public" (J Assoc Dent Canad 32:438, 1966). Son rapport déclarait que seules des personnes qualifiées devaient soigner la bouche des patients. Il recommandait également que les mécaniciens dentaires soient soumis à une Loi sur les Techniciens dentaires du Manitoba et intégrés en qualité d'auxiliaires dans le domaine de la santé dentaire. Aucune loi ne fut toutefois passée à la suite de ce rapport.

M. Basford approuve la plupart des propositions du Conseil Economique

Les modifications de la loi des cartels qu'Ottawa entend présenter vers la fin de la session parlementaire, refléteront probablement la plupart des suggestions du Conseil Economique du Canada.

Le *Financial Times* rapporte que, suite à l'idée émise par le Conseil, M. Ronald Basford, ministre de la Consommation et des Corporations, a donné son appui à la formation d'un tribunal des méthodes de concurrence qui serait chargé d'examiner et de surveiller les injustices indues en matière de prix, ainsi que dans la spécialisation et les autres pratiques commerciales.

Le gouvernement fédéral pénétrerait ainsi dans le domaine du droit civil, sphère où les provinces maintiennent leur juridiction sur la propriété et les droits civils. M. Basford espère cependant recevoir un avis du ministère de la Justice qui lui permettrait de fonder le tribunal en question sur l'article de la constitution qui place le commerce sous la juridiction fédérale.

M. Basford a également accepté d'inclure les professions libérales dans la législation sur la concurrence, comme le proposait le Conseil.

Le projet de loi de M. Basford sera probablement soumis à la Chambre des Communes vers la fin de la session et ensuite reporté à la prochaine session pour laisser aux citoyens le temps de l'étudier.

La recherche

Une réaction allergique existerait dans la maladie périodentaire

De nouvelles observations, effectuées par des chercheurs dentaires américains, indiquent que l'hypersensibilité à l'actinomycète, un micro-organisme

filamenteux présent dans le tartre dentaire, pourrait jouer un rôle important dans la maladie périodontaire.

Lors d'épreuves effectuées sur des animaux, les chercheurs ont injecté l'un des quatre types d'actinomycète à des cobayes, puis ont procédé à des essais cutanés sur ces animaux à l'aide d'un filtrat de culture acellulaire (nommé actinocine) qui avait été préparé à partir des actinomycètes. Les témoins furent testés avec le milieu de culture et l'actinocine. Alors qu'il ne se produisit aucune réaction chez les témoins, les réactifs non dilués provoquèrent les plus fortes réactions.

Après immunisation par les actinomycètes, les cobayes devinrent sensibilisés à l'actinocine homologue; les animaux furent également sensibilisés aux antigènes hétérologues connexes. Un sérotype fut utilisé pour des essais cutanés humains: l'actinocine dérivée de l'*A. bovis* qui à l'origine fut isolée du tartre dentaire d'un individu normal.

Les essais cutanés révélèrent deux fois plus de sujets hypersensibles aux réactifs de l'*A. bovis* parmi ceux qui étaient atteints de périodontite que parmi ceux qui avaient des gencives "normales".

L'habitude de fumer à l'envers est reliée à la leucoplasie

L'habitude indienne de fumer à l'envers—avec la braise du cigare dans la bouche pour empêcher le vent de l'éteindre—est reliée à la leucoplasie et au cancer buccal, selon F. S. Mehta, de Bombay. Le chercheur indien dirige l'unité dentaire de l'Institut de Recherche Fondamentale Tata à Bombay. Il effectue, avec J. J. Pindborg de Copenhague, une enquête épidémiologique portant sur plus de 59,000 villages indiens et visant à cerner les causes du cancer buccal.

Les incidences connues du cancer étant reliées aux divers emplois du tabac, ils en ont examiné les différents usages locaux. Outre l'habitude de fumer à l'envers et l'usage ordinaire de la pipe et de la cigarette, ils ont aussi étudié l'habitude de garder dans la bouche et de mâcher une chique de noix d'arc, de feuilles de bétel, de lime et de tabac.

Dans deux des régions géographiques étudiées, les chiques de tabac sont placées sur la langue, les chiques de tabac et de lime derrière la lèvre inférieure. Les principaux états buccaux relevés étaient: la leucoplasie homogène et tachetée, la leucokératose, nicotina palati, la fibrose buccale sous-muqueuse, les plaques blanches du fumeur de pipe, là où la tige de la pipe repose ordinairement dans le coin

de la bouche ou entre les lèvres et enfin, l'atrophie des papilles de la langue.

On a trouvé neuf cas de cancer buccal dans la zone où le cigare est fumé à l'envers. On en a trouvé douze là où l'habitude est plutôt de garder une chique de tabac dans la bouche, ces cas étant associés à la tendance de la fibrose sous-muqueuse de devenir cancéreuse. Il y avait trois cas parmi les fumeurs de pipe et de cigarette, et aucun dans les autres zones.

La leucoplasie était très fréquente chez ceux qui fument à l'envers, élevée chez les fumeurs de pipe, un peu moins fréquente chez les fumeurs de cigarette ou ceux qui mélangent les habitudes. Elle était beaucoup plus rare chez les chiqueurs et presque inconnue chez ceux qui n'utilisent pas le tabac. Le cancer de la langue était le plus fréquent dans la zone où les villageois placent des chiques de tabac sur la langue.

Une recherche ultérieure devrait montrer comment des taches apparemment inoffensives deviennent malignes, et fournir ainsi de nouvelles indications sur les causes des tumeurs.

La fluoration

Moncton et Edmunston seront fluorées

Le conseil municipal de Moncton a accepté le 12 décembre dernier la fluoration contrôlée du service d'eau de la ville "en consultation et en coopération" avec les municipalités environnantes qui utilisent l'eau de la ville.

Le conseil a donné son approbation "en principe" au projet de fluoration, à la suite d'une présentation très documentée de la Société Dentaire de Moncton.

Le conseil municipal d'Edmunston avait également décidé le 15 décembre de fluorer l'eau potable de la ville.

L'hygiène publique

Un rapport demande l'appui des ministres de la santé pour les soins préventifs d'hygiène bucco-dentaire

La conférence fédérale-provinciale des ministres de la santé, qui a eu lieu le 25 novembre dernier à Ottawa, a examiné un rapport extrêmement favorable aux soins dentaires préventifs. Le rap-

port a été préparé par une équipe chargée d'étudier le coût des soins d'hygiène publique et il contient les recommandations suivantes:

"Que la fluoration des services d'eau bénéficie d'une assistance fiscale.

"Que tous les systèmes régionaux de soins dentaires préventifs soient placés sous la direction d'un dentiste diplômé en hygiène dentaire publique.

"Que les ministères de la santé instituent des régimes destinés à encourager les soins dentaires préventifs réguliers à partir de l'âge de trois ans.

"Que les ministères de la santé emploient un nombre suffisant d'hygiénistes dentaires pour mener à bien les programmes de dépistage, d'information et de prophylaxie chez les enfants d'âge scolaire et préscolaire.

"Que le nombre de systèmes de prévoyance pour les soins dentaires soit augmenté et qu'ils soient offerts en priorité aux enfants.

"Qu'une aide financière soit fournie pour former des auxiliaires dentaires qui assumeront certaines fonctions présentement exécutées par les praticiens dentaires."

Le rapport a été rédigé par l'une des sept équipes de recherche mandatées par les ministres en novembre 1968. Les membres des équipes avaient été choisis dans les universités, les hôpitaux, les associations professionnelles et le gouvernement.

"Murphy la Molaire" vous salue bien

Elmer, l'éléphant de la sécurité routière, possède un nouvel ami: Murphy la Molaire, personnage qui incarne une dent vivante.

Murphy joue un rôle dominant dans la nouvelle campagne d'hygiène dentaire organisée par le ministère de la Santé de l'Ontario. Il apparaît sur des insignes, des affiches, ou comme personnage en carton, destiné à frapper l'imagination des écoliers de première à la troisième année.

Les responsables du ministère espèrent que Murphy aura autant de succès en hygiène dentaire que l'éléphant Elmer en a eu dans le domaine de la sécurité routière.

Murphy a été présenté le 15 janvier à 7,000 enfants de la commune torontoise d'Etoibicoke et du comté de Halton. Il fera son apparition dans toutes les écoles de la province en septembre, si la campagne d'essai réussit.

"Les enfants devraient pouvoir s'identifier à Murphy avec plus de succès que nous aurions à l'aide de livres ou de conférences", déclare R. E. Feasby, directeur de l'hygiène dentaire de l'Ontario.

Employment expectancy of the dental hygienist

Margaret Berry MacLean, BSc, BScDH
Edmonton

A survey of dental hygienists who graduated from the University of Alberta since 1963 suggests that the hygienist's employment life may extend over six to eight years. This contrasts with the 40 year work expectancy of a dentist. Canada's dental schools add 390 dentists and 110 hygienists annually to the nation's 6,900 practising dentists and 375 practising hygienists. The author suggests they should graduate five or six hygienists for every dental graduate and increase their annual output to 2,000 hygienists.

Une étude menée auprès des hygiénistes dentaires diplômées de l'Université de l'Alberta depuis 1963 suggère que la durée de l'emploi des hygiénistes peut durer jusqu'à six ou huit ans. Ceci fait contraste avec une expectative de travail de quarante ans chez le dentiste. Au Canada, 390 dentistes et 110 hygiénistes sortent annuellement des facultés dentaires pour se joindre à 6,900 dentistes et 375 hygiénistes qui exercent au pays. L'auteur suggère que de cinq à six hygiénistes devraient être diplômées pour chaque dentiste diplômé et que les facultés dentaires devraient générer 2,000 hygiénistes chaque année.

What kinds of employment attract dental hygienists? Where do they go? How many years do they work? To answer these questions, the writer surveyed all dental hygienists who graduated from the University of Alberta between 1963 and 1969.

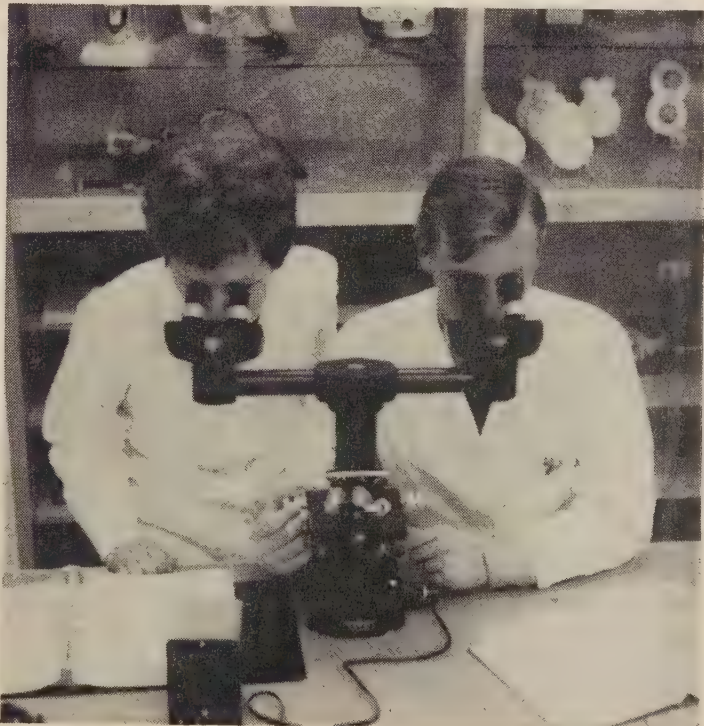
Current information about the employment life and employment expectancy of the dental hygienist is scant. Comparable data for dentists are more readily obtainable because most of them practise throughout their lives. But most dental hygienists in North America are women. Women frequently use a career to bridge the interval between formal education and marriage. Their employment is frequently interrupted, if not abandoned, on account of family obligations. Consequently, life expectancy tables cannot be used to calculate the work expectancy of a dental hygienist.

The preponderance of women in dental hygiene can

be directly attributed to the laws and regulations that govern the licence to practise dental hygiene. The percentage of working married women climbed from 22.5 in 1961 to 30.5 in 1967 as more and more women combined employment and family responsibilities or returned to work when family responsibilities decreased. A similar trend will likely be reflected in future statistics about female dental hygienists. The employment expectancy of a dental hygienist may even be further increased if practice regulations are amended to give the fully qualified male dental hygienist greater access to the profession.

Development of dental hygiene

Dental hygiene received its initial stimulus at the turn of the century. Overwhelmed by demands for



Student and instructor examine a histological slide.



Physically handicapped patients receive oral hygiene instruction.



Student treats a patient in the dental hygiene clinic.

treatment, many dentists of the day tended to neglect time-consuming preventive services. However, a few practitioners recognized the need for such services and articulated a desire to improve oral health through educational programs in the community and in schools.

In 1913 the first formal educational program for dental hygienists was established in Bridgeport, Connecticut, by Doctor A. C. Fones. By helping to fulfil the unmet needs of preventive dentistry, these initial graduates stimulated the development of additional dental hygiene programs throughout North America. By 1968

there were over 90 such programs in the United States. They offer qualifications ranging from the basic two year diploma to the master's degree in dental hygiene. A total of 31,232 dental hygienists have graduated from all programs in the United States. Of this number, 15,583 have graduated since 1956.

Dentists have been slow in accepting the dental hygienist. Although we have had hygienists for approximately 55 years, half of them have graduated in the last 12 years. The demand for graduates exceeds the supply and will continue to increase as more dentists accept the hygienist's role in providing comprehensive dental care.

In Canada the history of formal education in dental hygiene is relatively brief. The first program was established in 1951 and the first class graduated in 1953. Five universities now offer courses with a potential of 135 graduates a year. Graduates to date from all programs number 620. Of this total, 420 have graduated within the last five years. But Canada's growing demand for dental hygienists calls for expansion of existing educational programs and the introduction of additional programs to provide sufficient personnel. Equally important is the need to extend the hygienist's employment expectancy.

Number of graduates from the School of Dental Hygiene, University of Alberta, 1963-9

Table 1

Year of graduation	Number of graduates			Married as of July 1969
	Dental hygienists	Dental auxiliaries	Combined	
	1	2	3	
1963	0	19	19	17
1964	2	17	19	13
1965	0	11	11	8
1966	8	8	16	13
1967	12	4	16	9
1968	9	12	21	6
Cumulative	31	71	102	66
1969	11	9	20	3
Cumulative	42	80	122	69

Province of residence from which the graduate came as a student to the School of Dental Hygiene, University of Alberta

Table 2

Year	Alberta	British Columbia	Saskatchewan	Manitoba	Ontario
1963	13	0	5	0	1
1964	18	0	1	0	0
1965	9	0	2	0	0
1966	10	3	3	0	0
1967	8	4	3	0	1
1968	14	2	5	0	0
1969	15	3	2	0	0
Total	87	12	21	0	2

The University of Alberta established its School of Dental Hygiene in response to the need for dental auxiliary personnel in public health and the shortage of practising dental hygienists. The first class graduated in 1963. Seven classes with 122 hygienists graduated from the two year program up to June 1969 (Table 1).

Our graduates are known as "dental hygienists" or "dental auxiliaries." The distinction arises because the provincial health department offers "dental auxiliary bursaries" to members of all classes for one or two years of study. The bursaries carry a public health service commitment in Alberta following graduation. Each recipient must give a year of service for each year of financial support. Eighty of the 122 graduates accepted bursaries for one or two years and have followed the dental auxiliary program. They received the dental auxiliary certificate in addition to the dental hygiene diploma at graduation. The remainder who followed the dental hygiene program were free to seek employment wherever they wished.

The 122 graduates from these two programs were surveyed in July 1969 to obtain data about the duration, geographic location and nature of their employment.

Findings

Seventy-one per cent of the students were from Alberta (Table 2). Approximately two-thirds of the remainder came from Saskatchewan where no program is available. Slightly less than one-third were from British Columbia. The forthcoming establishment of a dental hygiene program at the University of British Columbia is expected to reduce the number of future applicants from that province.

Years of employment — Employment statistics were obtained from 102 hygienists who graduated between 1963 and 1968 inclusive. Table 3 compares the graduates' "possible" years of employment versus "actual" years of employment. As an example, a 1963 graduate could have been employed for six years up to June 30, 1969. Collectively, the 19 graduates of the 1963 class

Years of employment of graduates from the School of Dental Hygiene, University of Alberta, June 1963 to July 1968

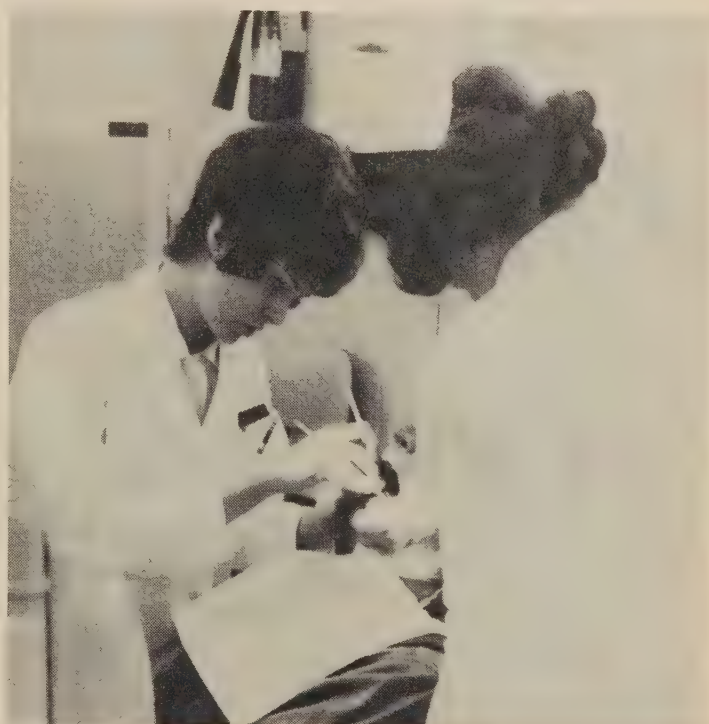
Table 3

Year of graduation	Possible years of employment		Actual years of employment per class
	per graduate	per class*	
	1	2	3
1963	6	114	98
1964	5	95	85
1965	4	44	42
1966	3	48	48
1967	2	32	31
1968	1	21	21
1969	0	0	[20 graduates began to work in July or August 1969]
Total	21	354	

*Product of column 3 in Table 1 and column 1 of this table.



X-ray technique is an important facet of the dental hygiene curriculum.



Instructor gives a personal demonstration to a dental hygiene student.

Actual years of employment in designated types of work

Table 4

Year of graduation	Years in :		
	Private practice per class	Public health per class	Other areas* per class
1963	23	64	11
1964	33	47	5
1965	15	27	0
1966	26	19	3
1967	21	10	0
1968	11	9	1
1969	[10 started]	[10 started]	[0]
Total	129	176	20

*Includes graduates engaged in further study, research, teaching or employment unrelated to dental hygiene.

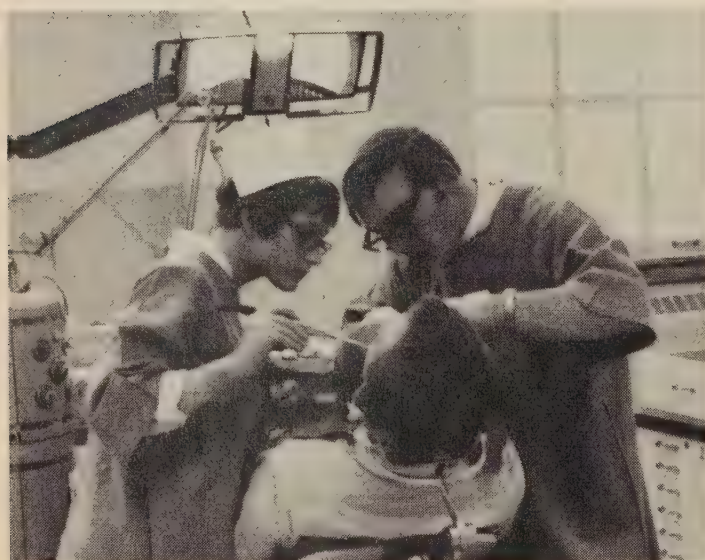
could have mustered 114 years of possible employment, and all 102 hygienists who graduated between 1963 and 1968 could have come up with 354 years. This represents 3.47 possible years of employment per graduate.

Actual employment, however, was less and totalled 325 years for the 102 graduates, or 3.18 years per graduate. Employment time also represents 91.7 per cent $[(3.18 \times 100) \div 3.47]$ of the possible employment time.

The average employment years per graduate will probably increase as more and more women, particularly those with university education, remain employed for a longer period of time. This prediction is reinforced by the age spread — 20 to 30 — of the group surveyed.

A trend that is not yet reflected in the statistics is the return to employment of dental hygienists who temporarily withdrew from practice because of family responsibilities.

Employment fields — Table 4 shows the type of employment of the surveyed graduates. Considering that 71 of the 1963-8 graduates had a commitment to public



A dental hygiene student and a dental student work together at the University of Alberta Faculty of Dentistry.

Actual years of employment in Alberta in designated types of work

Table 5

Year of graduation	Years in :		
	Private practice per class	Public health per class	Other areas per class
1963	15	63	11
1964	27	39	5
1965	6	27	0
1966	10	19	3
1967	15	7	0
1968	5	9	1
1969	[4 started]	[10 started]	[0]
Total	78	164	20

health (Table 1), their actual employment in this capacity amounted to 2.47 years per graduate (Table 4). Likewise, 31 of the 1963-8 graduates were free to seek employment anywhere (Table 1). They mustered 4.16 years of actual private practice employment per graduate (Table 4). Employment in other fields such as teaching, research and continued academic studies amounted to 0.18 years per graduate. Ten graduates are proceeding toward baccalaureate degrees or have already earned them.

Geographic location — As mentioned before, 71 graduates were committed to serve in public health in Alberta. Some had a two year commitment while others had a one year commitment. Statistically, the service



Check-ups for small patients include instruction in proper mouth care.

Duration, geographic location and type of employment of graduates who were students from Alberta

Table 6

Year of graduation	Number of graduates	Years of in-province employment in :			Years of out-of-province employment in :		
		Private practice	Public health	Other areas	Private practice	Public health	Other areas
1963	13	9.2	45.8	7.8	2.0	0	0
1964	18	27.4	34.0	3.8	6.1	7.6	1.5
1965	9	6.4	23.8	0	5.0	0	0
1966	10	6.4	18.4	1.6	4.0	0	0
1967	8	7.9	6.6	0	1.6	0	0
1968	14	3.0	7.0	1.0	3.0	0	0
Cumulative	72	60.3	135.6	14.2	21.7	7.6	1.5
1969	15	4 started	10 started		1 started		

Duration, geographic location and type of employment of graduates who were out-of-province students

Table 7

Year of graduation	Number of graduates	Years of in-province employment in :			Years of out-of-province employment in :		
		Private practice	Public health	Other areas	Private practice	Public health	Other areas
1963	6	6.3	18.2	3.6	6.1	0	0
1964	1	0	5.0	0	0	0	0
1965	2	0	3.0	0	4.0	0	0
1966	6	4.0	1.0	1.0	12.0	0	0
1967	8	7.4	0	0	4.1	4.0	0
1968	7	2.0	2.0	0	3.0	0	0
Cumulative	30	19.7	29.2	4.6	29.2	4.0	0
1969	5				5 started		

commitment per graduate on bursary support is only 1.9 years of employment. However, the actual employment life in public health in Alberta is 2.3 years (Table 5), and such employment in public health generally is 2.47 years (Table 4).

The actual employment life of the 31 graduates in private practice in Alberta is 2.51 years (Table 5), and such employment in private practice generally is 4.16 years (Table 4). Private practice outside Alberta is apparently more attractive than private practice in Alberta or public health outside Alberta (Table 4).

There appears to be no correlation between province of residence of the undergraduate student (Table 2) and the selection of geographical location for employment after graduation (Tables 6 and 7).

Eighty-four of the 122 graduates from our school presently reside in Alberta. Seventy-two of them work full- or part-time. Sixteen additional hygienists who graduated from dental hygiene programs elsewhere reside in the province. Of this group, eight are employed full- or part-time.

Employment possibilities for dental hygienists exist throughout the North American continent and in some countries of Europe. Despite such opportunities for travel and work, our 102 graduates of 1963-8 spent approximately 80 per cent of their actual years of employment within the province (Tables 6 and 7). The in-province graduates contributed 79 per cent and the out-of-province graduates contributed 21 per cent of this employment time. The in-province graduate remains employed in Alberta for approximately 2.8 years. The out-of-province graduate works in the province for approximately 1.8 years.

Discussion

Alberta has 553 registered dentists. Some 490 dentists are in private practice or public health. Eighty dental hygienists work in private practices or public health. This gives a ratio of one dental hygienist to six dentists. The dentist's work expectancy extends to some 40 years, whereas employment life of our dental hygiene graduates so far is only 3.18 years. Of course, some of these graduates have not been in practice long enough to reflect their potential employment life. Indeed, a future survey may show an employment expectancy of six to eight years. In that event, five or six dental hygienists should be graduated for every graduating dentist. At present, the Faculty of Dentistry at the University of Alberta can graduate 50 dentists annually. Between 250 and 300 hygienists should therefore graduate annually to meet the needs of the dental profession and public health.

Canada has some 6,900 dentists and 375 practising dental hygienists, or approximately one dental hygienist for every 20 dentists. Canadian dental schools now graduate approximately 390 dentists and 110 hygienists a year. They should graduate a minimum of 2,000 hygienists annually to meet the continuing need and improve the ratio of hygienists to dentists.

The combined efforts of the dental profession, the dental hygiene profession, post-secondary educational institutions and provincial and federal governments will be necessary to expand existing facilities and provide new facilities for the dental hygiene education programs that are obviously needed.

Mrs. MacLean is associate professor and director of the School of Dental Hygiene, University of Alberta, Edmonton 7.

Abstracts

Three years of supervised toothbrushing with a fluoride-phosphate solution

J. M. Conchie, F. McCombie and L. W. Hole. *J Pub Health Dent* 29:11, 1969

Grade 7 students in the New Westminster and Coquitlam school districts of British Columbia participated in a three year study to determine the effectiveness of self-administered topical fluorides. The 1,276 subjects were divided into experimental and control groups on the basis of pairing according to previous caries experience. At the end of three years, 915 students were still available for examination. All participants brushed their teeth, under close supervision in the schools, nine times over a period of two years. The experimental group brushed with a solution of fluoride phosphate; the control group used a placebo solution. Both solutions had similar colour and flavour and the examiner was unaware of the experimental status of the individual students. The final examinations were carried out a year after the last series of brushings. The experimental group experienced approximately 25 per cent fewer new carious surfaces in the permanent dentition than the control group. Self-administered topical fluoride therapy seems less effective than conventional topical application by the dentist or hygienist, but the cost is minimal and the services of professional personnel are not required.

Group fluoride applications for caries control

A. B. Sutherland. *Canad J Pub Health* 60:128, 1969

Group treatment of elementary school children employing a self-administered stannous fluoride prophylactic paste for the partial control of dental caries is a new feature of the dental programs in the Ontario health districts of Sudbury and Muskoka-Parry Sound. The stannous fluoride-zirconium silicate paste was developed at the University of In-

diana. It contains 9 per cent stannous fluoride by weight.

The paste is applied by brushing, usually in the classroom, under the direct supervision of a dental hygienist and an assistant, with the teacher also present. This procedure involves a quadrant brushing routine of some 160 brush strokes. Including the time required to demonstrate the brushing method, a class of 35-40 can be completed in about 25 minutes. By employing additional supervisory personnel larger groups may be treated in the same length of time in an auditorium or elsewhere.

The stannous fluoride-zirconium silicate formula has one drawback in that small quantities of the paste give rise to stomach upset. While the malaise is of short duration, it is sometimes accompanied by vomiting. Good supervision of the group brushing is therefore necessary, especially at the lower age levels.

Sudbury's water has been fluoridated for the past 16 years. Published studies indicate that stannous fluoride prophylactic paste, self-applied once or twice a year on a mass basis, provides additional anti-caries benefit beyond that which accrues from water fluoridation. The Sudbury and Muskoka-Parry Sound fluoride prophylactic paste programs involve 52,000 elementary school children.

The Biggar murder

Warren Harvey, Osborne Butler, John Furness and Ronald Laird. *J Forensic Sci Soc* 8:157, 1968

A Scottish case of murder is described in which the evidence to support conviction was entirely circumstantial. The principal evidence incriminating the accused youth, which the trial judge described as of paramount importance, concerned three bitemarks on the body of the victim. These were shown as having been caused by the defendant's teeth. They included unique ring marks made by pits in teeth resulting from hypoplasia and hypocalcification. The accused's teeth showed matching characteristics. To preserve the evidence, the judge sanctioned the unparalleled step of compelling the defendant to submit to dental impressions. This procedure, though challenged, was approved and commended on appeal.

Table salt fluoridation in Hungary

K. Toth. *J Dent Res* 48:153, 1969

In 1966 a study of dental caries was begun among children in a small village who used table salt which con-

tained 250 µg fluoride/Kg. The fluoridated table salt was the only salt available in the village, and it is believed that it had been used for daily cooking and therefore had been consumed by almost the entire population (2,918 in 1965). The tap water of the village contained 0.30 µg fluoride/litre.

After one year there was no noticeable change in the deciduous dentition from the use of table salt containing fluoride. In the permanent dentition, the six year olds had a caries reduction of 85 per cent and the seven year olds had a reduction of 34 per cent. These preliminary data suggest that fluoride incorporated in table salt may help to control dental caries.

The use of nitrous oxide, oxygen and trichloroethylene for outpatient pediatric dental anesthesia

M. J. Yasella. *Oral Surg* 27:169, 1969

Trichloroethylene, a nonflammable, easy-to-inhale anaesthetic, provides the excellent signs of anaesthesia needed to administer light surgical anaesthesia with the precise control required for use on an outpatient basis. Its potent analgesic action, plus the limited degree of other properties one expects from a general anaesthetic, makes it an ideal agent for oral surgical procedures on the paediatric outpatient.

Endotracheal intubation is not desirable for outpatient anaesthesia, and its use should be limited to emergency situations. A nasopharyngeal tube provides a valuable aid for dealing with upper airway obstructions and has few of the hazards of endotracheal intubation.

If light surgical anaesthesia is employed, trichloroethylene has very few complications, of which tachypnea is the most common. The rapid breathing is a sign of an overdose and is easily corrected by decreasing the concentration of the anaesthetic agent. Because of its depressant effect on the myocardium and its tendency to produce arrhythmias, catecholamines should not be used during trichloroethylene anaesthesia. The reaction of trichloroethylene with alkali absorbents limits its use to a non-rebreathing system.

Pre-operative medication is seldom necessary unless a belladonna drug is to be used to control the flow of secretion. Also, a complete blood count and urinalysis are valuable in determining the pre-operative physical status of the patient.

When administered by a qualified anaesthetist with prior training in both hospital and outpatient anaesthesia, trichloroethylene provides an excellent anaesthetic for oral surgical procedures on paediatric outpatients.

Book Reviews

The Dental Condition of the Canadian Forces: Report of a Two Year Study

*Division of Dental Services,
Canadian Forces Headquarters,
Ottawa 4, Ontario*

This 58 page report published under authority of Brig.-Gen. B. P. Kearney, Director General of Dental Services, has just been released. It presents the highlights of a two year study by the Royal Canadian Dental Corps to determine the dental condition of members of the Canadian Forces and recruits entering from civilian life.

Besides 38 tables there are 20 pages of discussion of the findings. A bibliography of 21 references is also appended.

No previous in-depth studies of this nature have been undertaken and there are no Canadian statistics covering the age groups involved in military service dentistry.

The report presents a great deal of information in a logical and readable form. It offers the most thorough and comprehensive dental index ever developed for a Canadian service population.

Current Therapy in Dentistry

H. M. Goldman, S. P. Forrest, D. L. Byrd and R. E. McDonald, ed. Vol 3. St. Louis, C. V. Mosby Company, 1968. 1006 p. Illus. \$28.05

Every now and then a group of writers cooperate to give the profession "what's the latest." *Current Therapy in Dentistry* is in this category, an excellent book for brushing up on a particular technique as well as a good general reference text. Some of the contributions, of which there are 49, are exceptional.

The book has four sections for quick reference: oral medicine, restorative dentistry, oral surgery, paedodontics and orthodontics.

The section on medical emergencies in dental practice is outstanding—worth the price of the book alone. It is up-

to-date, with clear descriptions and excellent illustrations. Pain control by Monheim is equally worthy of note. In Section 4 paedodontic orthodontics is developed in a very skilful manner, making this perhaps the pinnacle of the entire book. The article on implant dentures is the best I have seen to date. It treats design and technique with precision and clarity and supplements the text with excellent follow-up radiographs.

Current Therapy has something for every reader in almost 1,000 pages of easy reading. Each chapter has an extensive list of selected references and an excellent summary. It is a pleasure to review such a well written text. Goldman, Forrest, Byrd and McDonald are to be congratulated.

F. J. Phillips

Fundamentals of Immunology

R. S. Weiser, Q. N. Myrvik and Nancy N. Pearsall. Philadelphia, Lea & Febiger, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 363 p. Illus. \$10.75

This book is immunology in a nut shell. It consists of 26 brief chapters. The title of each chapter is clear and self-explanatory. The main headings and subheadings are listed in point form at the beginning of each chapter. This conveys the whole content at a glance and the reader can find the point of interest quickly. The introduction has an interesting chronological list of the principal investigators and their respective contributions to immunology. This is followed by a step-by-step expansion of the whole subject. The book ends with a very useful glossary that explains the many terms pertinent to immunology. The organization is clear, simple and easy to follow throughout.

Fundamentals of Immunology covers the whole spectrum of immunology. Consequently, the problems are stated in very concise fashion, without much explanation. This presupposes some background knowledge on the part of the reader and the availability of additional references from which he can amplify the details. The book itself makes for rather difficult reading for a

layman. At the same time, it does not possess enough detail to convey a thorough understanding of the topics without some outside help. However, its conciseness and clear outline make it an excellent general reference and source for quick review by readers who are versatile in the subject.

Michael Paszti

Basic Fact Sheets: Fédération Dentaire Internationale

G. H. Leatherman, ed. London, Fédération Dentaire Internationale, 1969. \$10.00

This is a loose-leaf folder of basic fact sheets for 60 countries compiled from information provided by their national dental organizations. This information is the outcome of a suggestion by Mario Chaves, former chief dental officer of the World Health Organization. The proposal was supported by the Federation's Commissions on Public Dental Health Services and Dental Practice.

The 1969 edition comprises data from 52 member and eight non-member dental associations. Each sheet contains information about the population, dental manpower, dental education, licensure and dental practice in the country described. The Federation hopes to update these data annually.

Analyse de livres

Clinical Dental Hygiene

Shailer Peterson, Ed 3. St. Louis, C. V. Mosby Company, 1968. 429 p. Illustré. \$13.00

Vingt-sept auteurs bien qualifiés ont participé à la 3e édition de ce travail dont la préface indique bien la portée. Le texte s'occupe surtout de l'aspect clinique de sujet et ne prétend pas être une encyclopédie à l'usage des hygiénistes dentaires, ni couvrir en un seul volume les deux années de leurs études professionnelles. La table des matières donne une idée du vaste contenu de chaque chapitre. Quelques

sous-titres en auraient cependant augmenté l'utilité.

Un bref historique de l'art dentaire et de l'hygiène dentaire est suivi d'un propagandisme qui manque un peu de réalisme, mais qui explique la nécessité du travail d'équipe dans le domaine de la santé et le rôle de chacun des membres d'une équipe dentaire. L'élève y trouvera de nombreux renseignements sur les études et la formation d'un omnipraticien, son travail et les valeurs qui le caractérisent, mais rien sur les spécialistes (tels les pédodontistes) chez qui bon nombre d'hygiénistes dentaires travailleront.

La classification des cavités dentaires, les matériaux utilisés pour les obturations et la réhabilitation, et quelques notions sur la physiologie et la dentition sont au nombre des sujets brièvement traités. Le texte sur l'anatomie dentaire est très complet et bien illustré, mais plus d'illustrations et de détails sur le reste de la cavité buccale en faciliteraient l'étude. L'hygiéniste dentaire y puisera suffisamment de renseignements en pathologie: la gingivite, la maladie périodontique, les abcès gingivaux et autres lésions inflammatoires, les tumeurs, les malformations congénitales, les blessures, etc. On y traite aussi de la pellicule sur les dents et des différents genres de taches et de dépôts calcaires, ainsi que de certaines façons de les éliminer. L'élève y apprendra graduellement à décerner les différences entre un état physique normal et anormal, et dans quelles circonstances l'état pathologique peut résulter d'une anomalie des fonctions dentaires ou des tissus environnants, voire de l'état général de la santé.

L'ouvrage parle des mesures préventives dont le patient, le dentiste ou l'hygiéniste dentaire sous la surveillance du dentiste, ont la responsabilité. On y traite de l'éducation du patient à l'hygiène dentaire, des diverses méthodologies et techniques que l'élève devra apprendre à maîtriser pour la prophylaxie dentaire, des instruments qu'elle devra à cet effet manipuler au laboratoire et plus tard en clinique. On insiste sur le fait que la méthodologie préconisée ne peut comprendre toutes les techniques possibles, qu'il ne sert qu'à illustrer les grandes lignes de l'enseignement et que celui-ci varie d'école en école. J'ai l'impression à ce sujet que bien peu d'écoles préconisent l'emploi de rayons x pour découvrir des résidus de tartre après une prophylaxie. Deux chapitres entiers sont consacrés aux différents moyens utilisés pour la stérilisation des instruments, à leur aiguisage et entretien, ainsi qu'à l'entretien de l'équipement selon les directives du manufacturier. On y trouve aussi deux excel-

lents chapitres sur la radiographie: sa découverte, des notions élémentaires sur la production de rayons x, leur nature, les dangers que comportent les radiations ionisantes, une description des appareils à rayons x utilisés en art dentaire, les différentes techniques employées en clinique et pour le développement des pellicules, les différents facteurs qui influencent la densité, la clarté, les contrastes, et les dimensions des images que l'on peut observer sur les pellicules.

Peu d'hygiénistes dentaires sont habituellement appelées à assister le dentiste ou à entreprendre pour lui des travaux de laboratoire. Cependant, elles doivent être en mesure de l'assister au besoin. A cette fin, l'ouvrage lui donne les connaissances de base sur les matériaux dentaires les plus employés et sur la façon de s'en servir. Parmi ceux-ci on compte: le plâtre et la pierre artificielle, l'amalgame, les matériaux pour empreintes, les ciments, l'oxyde de zinc-eugenol, les résines, la cire et l'or pour la fabrication d'incrustations, etc. Il y a aussi un bref résumé de la pharmacologie générale: il permet à l'élève de se renseigner quelque peu sur les médicaments utilisés par le dentiste, ainsi que sur certaines réactions que ceux-ci peuvent produire localement ou sur l'état de santé du patient. On peut y puiser des renseignements sur divers agents anesthésiques, analgésiques et narcotiques, les médicaments sédatifs et hypnotiques, les antibiotiques, les vitamines ainsi que quelques mots sur le fluor et ses effets préventifs. On fait aussi mention des hémorragies, de la syncope et du choc, des crises cardiaques, et des traitements d'urgence.

Quelques pages sont consacrées aux relations ouvrières, c'est-à-dire aux problèmes auxquels doivent faire face les hygiénistes dentaires vis-à-vis leur patron, le dentiste. Les heures et les méthodes de travail, salaire, congés, etc. doivent être décidés avant le début de tout emploi. Les problèmes de personnalité ou autres avec les patients sont aussi étudiés, ainsi que les moyens à prendre pour éviter tout mécontentement. L'idée de réunions périodiques à cette fin entre le dentiste et son équipe est excellente mais peu usitée.

Trois chapitres s'occupent des fiches utilisées pour l'inscription des anamnèses et des observations sur l'état des dents, de la bouche et de la santé générale du patient, le diagnostic du dentiste, et les soins à donner. On y traite aussi de la classification de cette documentation et des radiographies, de l'établissement d'un système convenable de rendez-vous et de rappels et des méthodes à utiliser à cette fin. L'élève peut s'y renseigner sur la tenue de livres et autres questions financières

utiles, mais qui ne sont pas habituellement du domaine d'une hygiéniste dentaire.

Les chapitres sur la dentisterie préventive et sur l'hygiène dentaire publique sont trop courts et méritent plus d'élaboration. N'est-ce pas dans ces deux sphères d'activités que les hygiénistes dentaires joueront leur plus grand rôle? Quelques notions statistiques élémentaires s'y trouvent, mais sur la nutrition et la propreté de la bouche l'ouvrage ne pouvait se permettre d'être plus bref. On y trouve également quelques mots sur les théories de Miller et de Schatz, sur la prévention de la maladie périodontique et de la malocclusion, la définition officielle de l'hygiène publique et quelques explications sur les enquêtes, l'analyse, la planification, le financement, la mise en oeuvre et l'évaluation des programmes; la bibliographie et le questionnaire à la fin du chapitre aideront surtout l'élève sur ces sujets en la dirigeant vers d'excellentes sources de renseignements.

Le chapitre sur la dentisterie dans les hôpitaux aux Etats-Unis établit un parallèle entre le travail hospitalier des infirmières et des hygiénistes dentaires de ce pays et il décrit les études post-scolaires et la formation requise. La situation au Canada est différente et nos hygiénistes dentaires tireront peu de profit de ce chapitre.

Les responsabilités professionnelles de l'hygiéniste dentaire sont assez bien décrites, mais on semble attacher plus d'importance aux relations extérieures, à l'animation sociale de cette hygiéniste pour faciliter l'éducation du public et le recrutement de candidates pour sa profession qu'au travail clinique bien accompli. On risque de faire croire à l'élève que la personnalité du dentiste et de son équipe ont autant, sinon plus d'importance que la qualité des soins donnés.

Le chapitre sur les exigences requises pour obtenir une licence ne s'applique qu'aux Etats-Unis.

Un concept de l'équipement moderne dont pourra bénéficier l'hygiéniste dentaire et la façon de s'en servir pour faciliter son travail ainsi qu'un glossaire des termes les plus usités en art dentaire terminent ce travail.

En somme, *Clinical Dental Hygiene* est un manuel qui résume les connaissances acquises par l'hygiéniste dentaire. Il n'a pas la prétention d'englober toutes les techniques que celle-ci peut utiliser, mais il lui suggère de nombreuses lectures pour parfaire ses connaissances. Ce texte s'adresse aussi à l'aspirante hygiéniste, mais pour en tirer profit elle ne devrait y recourir que sous les directives de ses professeurs.

C. A. E. McCabe

Solvency and solidarity

The art of taxation, they tell us, consists in so plucking the goose as to obtain the largest amount of feathers with the least possible amount of hissing. Judged by that standard, organized labour demonstrates a finesse unmatched by anything the dental profession can offer.

Take, for example, the United Steel Workers. Their dues represent two hours' earnings per month so that steel workers contribute between \$120 and \$240 to their national organization each year. Or take the United Auto Workers whose hourly wage averages \$3.85. Auto workers also pay their union the equivalent of two hours' wages each month.

This pattern of workers' earnings and the money they pay their unions is by no means exceptional. According to the Canadian Labour Congress, there is a fairly solid concentration of dues around the \$5 a month level. Since the current average income in Canada is \$6,000, this means the basic dues of many unions are equivalent to nearly two hours' pay per month.

Dentists, by contrast, are far more sparing in the support they accord their provincial and national organizations. This is shown by the 1968 Survey of Dental Practice which reveals that the average Canadian dentist had a net hourly professional income of \$10.31 that year. Using this figure, he would have had to pay over \$247 for annual association and licensing fees in order to match the auto workers' and steel workers' record. But his actual performance falls short of that mark. Nowhere, in fact, do the fees of provincial and national dental organizations exceed the equivalent of 18½ hours of a dentist's hourly net income — and the proportion in many provinces is considerably less.

In fact, disparities between provinces are quite noteworthy. Ontario dentists, who netted \$11.47 per hour, would have paid \$268 by union standards; they actually pay only 46 per cent of this amount — \$125. West Coast practitioners, on the other hand, dip a little deeper into their pockets. British Columbia's \$210 fee represents 76 per cent of the \$276 which BC dentists would have paid on the basis of the \$11.52 net hourly income they earned in 1968. Better, but still no match for the unions' performance.

Of course, it goes without saying that income cannot be the sole determinant of the support a dentist gives to his professional organizations. When this is said,

however, the fact remains that inadequate financing can only weaken these institutions and impair the services they are called upon to render on his behalf.

The major unions are well aware of this hazard. To avert such an eventuality, they cement their solidarity through substantial contributions from the rank and file of their membership. Can dentistry afford to disregard this lesson?

Unwarranted insinuations

An article in the February 7 *Globe and Mail Magazine* contains a couple of undeserved slaps at the dental profession in Quebec.

The author, Mr. Ronald Lebel, reports that "twenty professional and trade societies in the province systematically exclude trained immigrants with a citizenship rule and a thicket of other restrictions. Since all 20 bodies require Canadian citizenship as a condition of admission, this bars any immigrant professional who has been here for less than five years."

Another objectionable passage said "the College of Dental Surgeons charges naturalized dentists \$77 for examination and . . . the examinations go on for days on end, and some of the applicants faint from exhaustion."

In point of fact, the Quebec college allows foreign university dental graduates to take a special written and practical examination in order to qualify for licensure. They need not be Canadian citizens but they must be landed immigrants who have declared their intention of acquiring citizenship.

As to the question of the fee and the physical state of the candidate — we fail to see any connection between the two.

Mr. Lebel must know that licensing authorities owe a duty to the Canadian public. They cannot lower their standards for particular individuals without compromising this responsibility. Though we share his concern for fair and equitable treatment of immigrant dentists, we question the usefulness of assertions which, in effect, are a gratuitous affront to the profession.

Les années soixante-dix

Le passage d'une année à la suivante—période durant laquelle l'humanité est saisie, une fois par an, d'une soi-disante "émotion spontanée"—nous contraint, que nous le veuillons ou non, à réfléchir tant au sujet du passé que de l'avenir. A plus forte raison cela est-il vrai de la transition d'une décennie à l'autre, c'est-à-dire des années soixante aux années soixante-dix. Les motifs d'enthousiasme ne nous ont pas précisément manqué durant les années que nous laissons derrière nous et il est extrêmement difficile de prévoir l'avenir. L'humanité tout entière est parcourue de remous—les valeurs anciennes disparaissent et sont remplacées par des valeurs nouvelles—et nous nous demandons avec inquiétude où tout cela nous mènera: au progrès? à un recul? Impossible de prophétiser. Espérons que l'équilibre sera rétabli et que les rénovations, indubitables celles-ci, agiront pour le plus grand bien de l'humanité.

Que dire des soins médicaux en général et des soins dentaires en particulier, en face de ce grand malaise? Heureusement pouvons-nous répondre à la question avec un peu plus d'optimisme. L'évolution scientifique comme technique de notre profession au cours des dernières années est plus que satisfaisante. Grâce à une activité scientifique intense, les possibilités de la médecine dentaire se sont accrues et une prise de conscience bien plus aiguë du fait que les soins dentaires sont une partie essentielle des soins médicaux s'est fait jour; enfin, et il ne faut pas l'oublier, la coopération beaucoup plus étroite des membres de la profession s'est beaucoup resserrée.

Les controverses existantes ont disparu ou se sont affaiblies et les motifs de dissension s'estompent dans tous les domaines. Autant de bons augures. Nous possédons aussi, et nous nous en félicitons, une puissante organisation internationale, la FDI, qui oriente notre évolution dans le bon sens, veille à ce que les connaissances et l'habileté acquises par la profession soient diffusées et appuie les efforts qu'elle déploie pour se justifier.

Si nous songeons à l'avenir, nous voyons qu'il nous faudra longtemps faire preuve de diligence: on exigera beaucoup de nous, physiquement et intellectuellement, et nous devons nous habituer, par exemple, à travailler en équipe avec nos auxiliaires dentaires et, pour répondre à la demande constamment accrue de

soins dentaires, à organiser notre cabinet de la façon la plus efficiente possible.

Espérons que la voie que nous empruntons est la bonne, que nous y demeurerons et que nos réalisations en faveur de la santé et du bien-être de nos semblables subsisteront.

*J. Stork, Président
Fédération Dentaire Internationale*

La lutte contre le cancer.

De toutes les provinces canadiennes, c'est le Québec qui a le plus haut taux de mortalité due au cancer. Chaque année, dans la province, il y a environ 12,000 nouveaux cas. D'ici 1975, on peut présumer qu'il y aura chaque année environ 20,000 nouveaux cas. Quand un individu apprend qu'il est cancéreux il se considère comme condamné à mort dans un délai relativement court, ce qui n'est pas toujours vrai et ce que les statistiques que nous détenons ne nous permettent pas, en ce moment-ci, de déterminer.

Si cette maladie frappe un être cher, on s'émeut, on pleure même et, après le décès, on s'efforce d'oublier ces mauvais souvenirs, pour éviter de penser: "Et si je devenais cancéreux?" Pour oublier aussi que d'autres humains souffrent les mêmes affres.

Le cancer, pour la société, possède au moins un aspect rassurant: il n'est pas contagieux. Quand la tuberculose exerça ses ravages, dans notre population il y a une quarantaine d'années, l'opinion publique réagit fortement dès qu'elle fut quelque peu instruite des conséquences de la maladie, non seulement en ce qui concerne le patient lui-même mais les membres de son entourage. On a même traité le tuberculeux en lépreux.

Ceux qui ont vécu cette période nous répètent qu'en dépit de ce danger de contamination, il a fallu une dizaine d'années aux autorités gouvernementales pour qu'elles prennent action et créent des sanatoriums. Combien de temps mettra-t-on à planifier le dépistage, le diagnostic et le traitement des cancéreux?

Claire Dutrisac

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association Dentaire Canadienne. Vous êtes invités à participer à cette section du Journal.

Dentists and geriatrics

Dentists who practise their profession as a health service never fail to express appreciation for the cooperation received through consultation with their patients' physicians. Instead of being nothing more than a set of study casts mounted on an articulator, the dental patient then becomes a person with an oral problem. He is no longer a cavity in a tooth, a vacant space between two teeth, or an edentulous mouth. The restorations and appliances constructed for him by the dentist become therapeutic aids instead of mechanical devices, and they contribute appreciably to the patient's better physical and emotional health. The dentist who approaches his patients' oral problems from a biological as well as from a mechanical and cosmetic point of view becomes a mouth physician because he knows and understands the correlation between the mouth and general health.

True as these ideas are for patients of all ages, in all states of health and in all socio-economic circumstances, they are of special significance in geriatric dentistry. Readers of the Journal are therefore especially indebted to Doctor Sherman for bringing these matters to our attention in the February issue.

An older person is not a second-hand copy of a younger individual, no more than a child is a vest-pocket edition of an adult.

It may come as a surprise to be told, as Doctor Sherman puts it, that the cells and tissues of the mouth and perioral structures undergo ageing changes similar to those that occur in the rest of the body and the mind. Nevertheless, if a dentist sees an older person with sound teeth, a healthy periodontium and an intact oral mucosa, he should recall Doctor Sherman's observation that all cells and organs of the body do not age at the same time nor at the same rate.

Even in taking a history, in making a case presentation or in giving home instructions, the dentist should note Doctor Sherman's warning about the tendency of some elderly patients toward mental rigidity and an involuntary regression to a more elementary stage of maturity. A dentist should tell his older patients why their diet should be high in quality but less in quantity than in earlier years.

Doctor Sherman's additional comments on retirement are of inestimable value to the dentist as well as to the dental patient.

*Arthur Elfenbaum, DDS
Editor*

*Journal of the American Society for
Geriatric Dentistry
Chicago, Ill*

Toronto student project seeks equipment, instruments and supplies

We are dental students in the Faculty of Dentistry who, in cooperation with the Faculty and the Academy of Dentistry are setting up a clinic to serve the needs of low income families in Toronto.

We need everything, but especially surgical instruments, hand cutting instruments, etc.

If any readers can help, would they please contact Doctor Murray Cornish (488-1233) or Doctor R. L. Moran (425-6220) or write to: Student Health Organization, c/o Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 101, Ont.

*Nelson Ravka
Faculty of Dentistry
University of Toronto*

More comment on the new format

One earns the right to criticize by working to implement constructive suggestions. One who is loud in criticizing obvious faults must also accept the responsibility of expressing encouragement and deserved praise when outstanding achievements occur.

The January and February issues clearly indicate that our Journal is now an outstanding one. The February issue,

particularly, is an excellent example of what a good professional journal should be. It has a varied editorial content, excellent dental political news, a goodly number of letters to the editor, eye appeal, photographs and, most important, dental articles with appeal to all general practitioners, most specialists and our student members.

It's a well-balanced production. Keep it up.

*Ivan Hrabowsky, DDS
131 Ontario St
St Catharines, Ont*

Le Journal comme voie de communication

Je tiens à vous faire savoir à quel point j'apprécie le privilège d'être publié dans votre excellent journal. A en juger par les multiples demandes de tirés à part, nous avons constaté avec satisfaction qu'à travers votre journal, un article français atteignait également le public anglophone.

En vous présentant, cher et honoré Confrère, nos vœux les meilleurs pour une bonne continuation de votre travail d'éditeur, je vous prie de croire à l'assurance de toute ma considération.

*Prof. L. J. Baume
Ecole de Médecine Dentaire
Université de Genève
1211 Genève 4, Suisse*

L'Association des Chirugiens-Dentistes du Québec

Récemment, les dentistes du Québec réorganisaient leur association provinciale et formaient l'Association des Chirugiens-Dentistes du Québec.

Cette nouvelle association a pour but de voir au bien-être de ses membres et de veiller en tout temps à leurs intérêts.

Elle s'occupera de la négociation des honoraires lors de l'application du plan d'assurance-santé, instaurera des plans d'assurance-groupe et verra également à l'organisation des congrès provinciaux annuels. Un journal mensuel sera publié. En un mot, elle s'occupera de maintes activités concernant la profession dentaire.

Nous sommes heureux, Monsieur le rédacteur, de vous faire connaître notre nouvelle Association et vous assurons de son entière coopération vis-à-vis les besoins de la profession.

Il nous fait plaisir de noter que notre Association est maintenant la seule, avec le Collège, représentant les dentistes sur le plan provincial.

*Hubert LaBelle, DDS
Président
880 est, boul Henri-Bourassa
Montréal 358, Qué*

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

One of the most important assignments at CDA Headquarters has been the preparation of a brief to be presented to the House of Commons and Senate committees studying the white paper on taxation.

In collaboration with the tax specialist of the Association's legal firm, Shibley, Righton & McCutcheon, much time and effort have gone into the brief which we have been invited to present in Ottawa this month.

We have been greatly assisted by the prompt response of corporate members to our invitation to express points of view on matters which should be raised in our brief. In all, nearly 50 replies were received from across the country.

Our brief, which will no doubt have been presented by the time this issue is in readers' hands, makes an effective argument against the white paper proposal to put dentists, for taxation purposes, on an income accrual basis. Our brief documents instances in which this would pose unfair burdens on members of our profession.

The brief also stresses the scientific and professional value to dentists of attending conventions of the CDA and other dental organizations, and asks that convention expenses should continue to be tax deductible. And we are asking the committee to review the proposal to eliminate the tax deductibility of post-graduate educational expenses.

Our brief is not all negative, however. We are asking, for example, that Canadian taxpayers be given a break taxwise in connection with the payment of premiums for health insurance.

Teaching conference

The Council on Education's annual teaching conference, held this year to discuss developments in oral biology, was one of our better teaching conferences.

It again brought together a group of teachers from dental schools throughout the nation, and I am confident the newly acquired knowledge they will be imparting to other teachers and students will be of great value in the future of dentistry.

We were fortunate to have as our key speaker Professor D. J. Anderson, chairman of oral biology at the

University of Bristol, England. Professor Anderson is on a North American speaking tour.

Next year's conference will be devoted to the subject of pharmacology and therapeutics.

We believe that quality continues to be more important than quantity, and that programs such as the teaching conference of the Council on Education have a very profound long-term effect on dental quality.

On the question of quantity and its comparison to need, it must surely be evident that Canada needs more dentists; yet it remains to be seen how additional services can be financed and how they can be delivered to certain segments of the population who do not now avail themselves of services which are available on a non-cost basis.

The demand for dentists will depend on the educational and socio-economic level of a particular society, the availability of auxiliary services, and the level of the public's appreciation of adequate dental protection.

We believe that Canadian dentists can continue to best serve the health needs of the nation by concentrating on improved services and wider application of preventive measures. The success of such measures as fluoridation has now been well documented. Dentistry faces great changes, both scientifically and economically, and Canadian dentists must be in the forefront of concern for the good health of all Canadians.

Survey of practice

For the second time we have approached the Hon. John Munro, Minister of National Health and Welfare, for a grant of \$15,800 to finance 75 per cent of the cost of the recent survey of dental practice and a survey of recent dental graduates. We had applied for this grant in August 1969 but were told that funds could not be made available "at that time." This time we again pointed out the need for such investigations and explained that no other agency is prepared to carry out this type of work. We also reminded Mr. Munro that the CDA has received countless "requests" from various federal agencies for just this kind of information and asked for a favourable reconsideration of our request for aid.

Dialogue

Thanks to the progress achieved in consolidating existing CDA-sponsored group insurance and retirement savings programs, the Insurance Committee is now exploring other avenues of insurance and investment which may serve members advantageously. To gauge potential interest in these proposals, the Journal asked Doctor Louis Bernier, Quebec City, and Doctor G. G. Orser, Fredericton, for opinions on this subject.

Suite aux progrès qui ont été faits dans les domaines de l'assurance-groupe et des régimes d'épargne-retraite de l'ADC, le Comité des Assurances veut maintenant explorer d'autres formes d'assurances et de placements qui pourraient rendre service à nos membres. Afin d'évaluer l'intérêt qui existe dans cette initiative, le Journal a demandé au Docteur Louis Bernier de Québec et au Docteur G. G. Orser, de Frédéricton, de donner des opinions à ce sujet.

En route vers le restaurant

Louis: Bonjour Jean-Claude. Comment vas-tu? Tu es à pied?

Jean-Claude: Imagine-toi qu'hier soir j'entre dans la pharmacie acheter les journaux, et je laisse ma voiture à la porte, le moteur en marche; je sors, ma voiture est volée, disparue.

Louis: Si tu as de bonnes assurances, tu auras une voiture neuve, dans deux ou trois mois, mon vieux veinard!

Jean-Claude: Justement, c'est tellement onéreux de se protéger, spécialement dans le domaine de l'automobile, pour le feu, le vol, ses propres dommages, les dommages à autrui, qu'en un temps et deux mouvements, on s'échafaude une prime astronomique. Nous, les spécialistes (endodontie), on n'a pas le moyen de se payer ça!

Mais si l'Association Dentaire Canadienne nous offrait des taux spéciaux, comme pour la responsabilité professionnelle, ce serait intéressant, tu ne penses pas?

Louis: Ce serait peut-être possible, c'est une avenue à explorer. Il y a évidemment la question des réclamations, dans le cas de l'assurance-automobile. . . . Il faudrait quand même que les assurés puissent communiquer facilement avec des représentants ou des agences dans leur localité; à première vue, ça ne semble pas un obstacle insurmontable.

Reste à savoir si les confrères désireraient obtenir de tels avantages de leur association nationale; si cela ne se traduirait par une augmentation de personnel, et partant plus de dépenses pour l'ADC?

Jean-Claude: On pourrait simplement transiger avec des compagnies qui sont installées d'un océan à l'autre et demander des soumissions pour un groupe possible de 3,000 ou 4,000 membres.

Louis: Cependant, en puritain que je suis, comme principe, est-ce que notre association doit s'engager dans ce genre d'activités, comme des voyages, des assurances de toutes sortes, enfin obtenir pour ses membres des avantages pécuniaires ou des bénéfices marginaux, ou si elle doit se limiter aux questions strictement scientifiques et professionnelles?

(Tiens, voici André et Jean; on va connaître leur opinion).

Louis: Bonjour. Nous étions à nous demander, Jean-Claude et moi, si on devrait étendre l'éventail des services que l'ADC rend aux dentistes, ou si son rôle devrait se limiter plutôt à l'aspect scientifique et professionnel.

André: Quelles sortes de services?

Jean-Claude: Des excursions ou voyages en groupe, à l'occasion de congrès ou de réunions scientifiques; des assurances collectives automobile, hypothécaire, assurance responsabilité publique patronale, etc.

André: C'est bien beau ça, mais si on nous offre tous ces services, c'est notre contribution annuelle qui va augmenter, parce que les dépenses vont augmenter au bureau de l'Association Dentaire Canadienne.

Jean: Mais si le jeu vaut la chandelle, on y gagnerait peut-être beaucoup.

Louis: J'ai devant moi actuellement une offre d'une association professionnelle américaine qui m'offre de l'assurance-vie-terme à 30 pour cent de moins que la prime que je paie en ce moment, pour les mêmes bénéfices.

André: Oui, mais le gros inconvénient, c'est qu'il faut écrire chaque fois qu'on a une explication ou un renseignement à demander, et c'est bien compliqué.

Jean-Claude: Si tu es trop paresseux, ce n'est pas de notre faute, ah! ah!

Louis: Justement, il y a peut-être possibilité d'obvier à la difficulté en choisissant des maisons qui ont des agences dans toutes les principales villes du Canada.

Jean: Sûrement, cela doit exister. Mais dans le cas de l'assurance-automobile par exemple, il y a des lois provinciales qui régissent les compagnies d'assurance-automobile. Si tel était le cas, on devrait peut-être laisser l'initiative aux organismes provinciaux dans ce domaine.

Moi, je trouve que si l'Association Dentaire Canadienne nous obtenait des taux préférentiels sur l'assurance-hypothécaire ou l'assurance-automobile, les gars réaliseraient davantage les bénéfices qu'ils tirent d'une association comme celle-là. De plus, on a bien plus de chance d'obtenir de bons taux avec cinq ou six mille membres qu'avec quinze cents (1,500).

André: Evidemment, cela vaut peut-être la peine d'y penser et d'explorer les possibilités que l'Association aurait de nous offrir d'autres services ou d'autres options dans le domaine des assurances. Mais pour nous c'est essentiel que nous communiquions en fran-

çais d'abord, puis facilement ensuite quand nous avons des réclamations, aussi facilement que lorsque nous transigeons individuellement avec des compagnies.

Jean-Claude: C'est certainement très important mais si on obtenait des avantages marqués, on pourrait concéder quelques inconvénients mineurs.

Louis: Il y a une autre forme d'assurance aussi que le Comité des Assurances de l'ADC devrait étudier, c'est ce que j'appellerais une "assurance-donation". Nous pourrions payer annuellement une prime qui serait entièrement déductible de l'impôt. Cette prime (unifforme) assurerait un capital qui varierait selon l'âge de l'assuré. — Nous pourrions payer une, deux, trois ou quatre primes, pour compenser la capitalisation avec l'âge. — Nous pourrions léguer ce capital à une oeuvre reconnue et approuvée, comme le Fonds canadien pour l'enseignement dentaire, à une bibliothèque dentaire, à une faculté dentaire, à des projets de recherches, etc. Le tout resterait sous l'administration de l'Association Dentaire Canadienne ou un organisme indépendant créé à cette fin.

13.30 hres. . . .

Bonjour les amis. A la semaine prochaine.

Narrateur: *Louis Bernier*
1024 ave des Erables
Québec 4, Qué

CDA retirement and insurance plans

The recent merger of the Ontario and Canadian Dental Association programs under one administration makes available to all members of the CDA a number of group insurance plans. Some of the problems of the merger have been solved and some questions about billing and payment of premiums have now been answered.

To many dentists the availability of these contracts has been a most desirable aspect of their membership in the CDA. This is particularly true in provinces with a small number of registered dentists. The New Brunswick Dental Society's members have participated in group term and liability insurance, in office overhead and income protection, in the retirement savings plan, and in Blue Cross-Blue Shield extended health benefits and comprehensive health care. The Blue Cross-Blue Shield policy makes available to a small group of members a program of health benefits that is available to only a few large groups in New Brunswick.

The CDA Insurance Committee has provided good contracts at competitive premiums for such coverage. Previous to the CDA's group liability insurance, it was difficult to obtain any amount of coverage at a reasonable premium. Since 1958 the number of available policies and the improvements in these contracts have shown steady progress. We are indebted to the Insurance Committee for its untiring efforts on our behalf.

Should the committee now be permitted to expand coverage to other areas such as automobile, home and building, personal, fire and theft, and office equipment insurance? Some local dentists have expressed the view that local insurance agents render a valuable service in these fields. It is sometimes easier and more expedient to discuss complaints, revisions and adjust-

ments, when necessary, by telephone or by personal visit than to do so by correspondence. Composite policies in these areas afford some savings through discounts, but the benefits derived through a group master plan would have to be considerable in order to offset the advantages of individual policies.

Auto insurance, particularly, seems to present problems. The interest taken by provincial governments and the pressures exerted by some provincial groups who want their governments to take over the auto insurance industry may well increase the chaotic state already present in that industry today.

The New Brunswick government proposes to do away with disparate premiums in different regions of the province for basic public liability and public damage contracts. This would erase the benefit that cities like Fredericton and Saint John enjoy. At present there is a 30-50 per cent differential in favour of low accident rate regions. For instance, Fredericton region policy holders pay less for a basic public liability and public damage contract than policy holders in some other areas. The plan for equal opportunity would change this.

Should the Insurance Committee explore the establishment of a venture fund for CDA members? The CDA's retirement savings plan administered by the Royal Trust Company has shown a good appreciation since its inception. It compares favourably with other mutual funds. Our plan was introduced in 1958 with no front end loading charge at a time when other mutual funds were charging 8½ per cent. Though it may appear conservative to some, the Royal Trust Company says it is as venturesome a fund as any it would care to administer. We should be guided by the experience and good counselling of a company which has resources and research facilities equal to those of the Royal Trust. Consider the state of some high flyers and go-go funds in today's depressed stockmarket. The companies with these speculative issues have been hard hit by tight money policies and high interest rates. Many go-go funds have been forced to close, though some have been rescued by mergers intended to protect the investor. I therefore hesitate to support a recommendation to institute a venture fund for CDA members.

The federal government's renewed interest in the insurance industry, recent changes in the taxation of insurance companies, proposals for tax reform, and the effect of the new estate tax act have caused many people to reconsider their personal insurance programs. This is reflected by the value of life insurance company shares which have been depressed for the last four or five years.

Our efforts should probably be directed to seeking counsel on taxation, estate duties and investment, but not at the expense of spreading our manpower resources too thinly over too many areas.

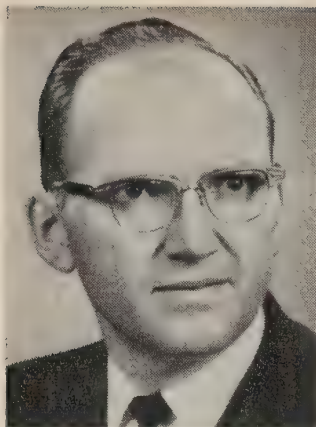
We have reached a plateau. Prudence demands that we consolidate our present position. We must try to improve what we have, determine how the merged services will operate, and see what assets are produced through the retention principle inherent in premiums collected by Canadian dental service plans.

G. G. Orser
12 Westmorland St
Fredericton, NB



Playground with a problem . . .

The following interview was conducted at the Niagara Falls home of Doctor George E. Burgman shortly after his return from a three week tour of 10 British Commonwealth Caribbean islands last November and December. This is not a travelogue, at least not in the traditional sense of sun, sea and sand by day and warm zephyrs and cool drinks by night. This interview has to do with Doctor Burgman's assessment of the practice of dentistry . . . and the lack of it . . . in one of the world's most beautiful and popular playgrounds. A playground with a problem.



Niagara Falls, Ont, dentist Doctor G. E. Burgman accompanied a Canadian team which toured 10 Caribbean islands last December to assess the area's health and educational needs. Other members of the team were a physician representing the Canadian Medical Association, a teacher representing the Canadian Teachers' Federation and the co-ordinator for health and education of the Canadian Executive Service Overseas.

Journal: Before describing the actual events of your tour, please explain the organization behind it.

Burgman: The tour was brought about by two groups working in cooperation, the Canadian Executive Service Overseas, or CESO as it is popularly known, and the CDA.

CESO is a non-profit organization operated by a group of Canadian business leaders with government support provided through the Canadian International Development Agency.

The purpose of CESO is to recruit senior executive, technical and professional people to work as volunteers in response to requests for specialized assistance from either the public or private sectors of developing countries.

The three major objectives of CESO are to assist developing countries achieve economic growth by helping them strengthen their organizations and institutions, to provide opportunities for retired Canadians to make a meaningful contribution by utilizing their know-how and experience in the assistance of the developing countries, and to increase friendly relations between the people of Canada and the people of other countries of the world.

Journal: How did an organization primarily composed of business executives become interested in establishing an association with the CDA?

Burgman: One of CESO's recent activities has been to send physicians to some of the Caribbean islands that have requested medical aid. Following an exploratory survey of the needs and medical facilities in the islands the Canadian Medical Association is cooperating with CESO in recruiting medical personnel who are interested in up to a six month stay in the islands. During this period a portion of each day is spent in service to the people. No salary is paid but living and travelling expenses are assumed by the country making the request.

CESO volunteers are sent only to countries that make specific requests. CESO provides the return fare and the recipient country must fulfil certain spe-

cified obligations. Wives may be included if the duration of the stay is two months or more. An arrangement such as this provides an opportunity of helping some of the less fortunate people of the world while actually living in a lovely holiday setting.

Doctor Brouillet, a former CDA president, and the Association's executive director, Doctor McIntosh, visited J. Claude Hébert, president of CESO, in Montreal in October of 1968 to inquire if the dental profession could be of assistance to CESO's program. It was agreed that a CDA-CESO plan similar to that of the CMA should be investigated.

CESO provided an outline of the steps to be followed. In essence, this procedure called for two representatives of CDA, one French-speaking and one English, to make a tour of the islands, visiting government officials, dental and medical personnel and dental and hospital facilities to determine the dental needs and the best way of assisting with the dental problems. The tour details and all arrangements would be looked after by CESO.

Following the tour, the CDA representatives would report to CESO and, if on the basis of this report CESO was convinced that a need existed, arrangements would be made to send dentists who applied for service and were approved by the CDA.

The CDA Executive Council then asked that two Canadian dentists make an initial survey of the Caribbean region to determine in an on-the-spot examination just what the local dental problems were and what action might best be taken.

Journal: What led to your selection for this particular assignment?

Burgman: I have always wanted to go abroad to assist people requiring the kind of help I am capable of giving as a dentist. I know that we can't take care of everyone we would like to in our own country where on a national scale we have approximately one dentist for every 3,000 people. But on one little island in the Caribbean there are just two dentists for 92,000 people. Obviously, it's impossible for these people to get proper care.

Let me give you some background, however, before I tell you about my participation in the CESO-CDA



School children in a typical classroom in St. Vincent.

project. In my desire to go abroad to provide dental service to people not fortunate enough to be getting adequate, or even any, treatment, I contacted a physician in St. Catharines who heard I was interested in this type of service. He gave me the address of Mother Irma who is head of a Roman Catholic hospital on St. Lucia in the Caribbean. I wrote to her in September of 1968 and at the end of January in 1969 my wife and I and two of our three children arrived at St. Jude's Hospital in St. Lucia. We stayed three weeks. It wasn't long but we really accomplished quite a bit in that time.

We were given room and board in exchange for the services that I gave to the dental clinic and I met a lot of wonderful people. Certainly, my children benefited by learning that we can all live together in harmony and happiness regardless of race, colour or religion. I know this trip did them a world of good.

The people are truly appreciative. In our own offices we often do dental work without bothering to send a bill, but it's rare to get a real terrific thank you for this. The people of the islands were extremely appreciative and let us know that they were grateful for the service we gave them. Those three weeks were just enough to whet my appetite.

The talk about the CESO-CDA Caribbean program came at about the time I was leaving to go on this trip, so this may be why I was asked to represent the CDA on a subsequent health and education survey of the 10 Caribbean islands.

It was really a pleasure to represent the Canadian Dental Association on that tour. I know that we have problems in Canada, but I don't think we can afford to forget there are people who need help outside of our country.

Journal: What sort of reception were you accorded?

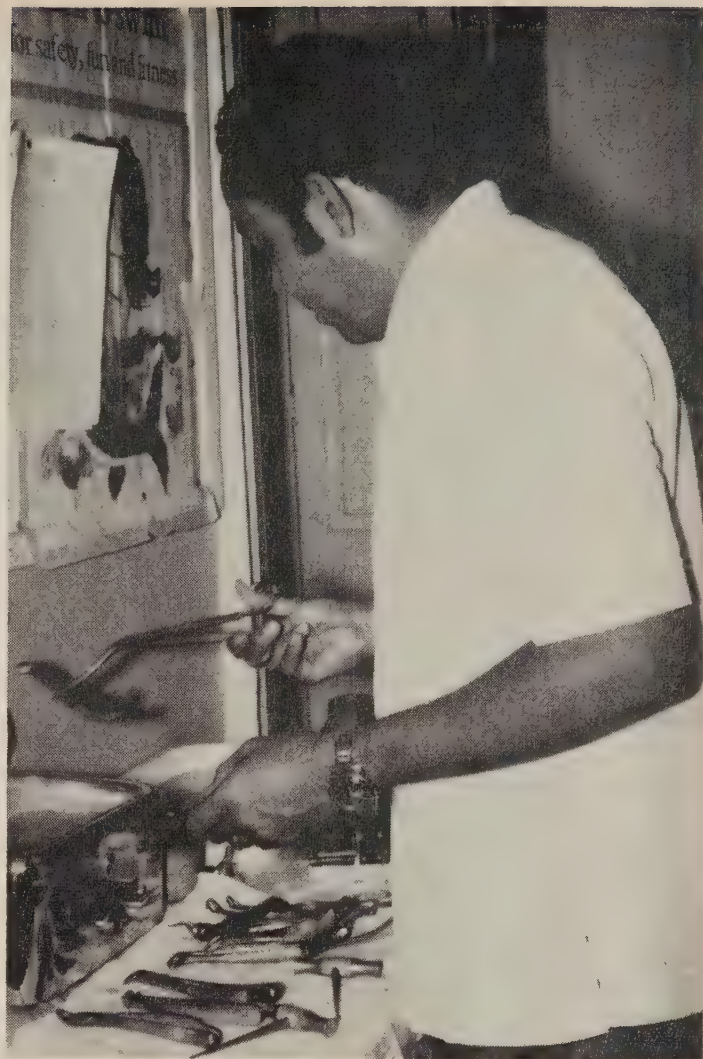
Burgman: Generally speaking, we were very well received. The letters sent out in advance by Doctor McIntosh were extremely effective in introducing the survey to the particular islands. CESO also sent out letters along with a copy of our itinerary so that government officials would know when we were going to arrive.

Trinidad was our first port of call and it was here that we were introduced to what became a routine format in meeting officials. First we met the minister of health who was an elected official, next the permanent secretary who, as a civil servant, was often more conversant with details of the local program, then the chief medical officer who, in most cases, would oversee whatever dental services were available, and finally an opportunity would come to talk to a practising dentist.

There is an acute shortage of dentists on this island. With a population of about a million, there are 17 dentists working for the government and 30 to 40 in private practice, or about 55 to 60 dentists giving a ratio of one dentist for every 36,000 people.

Because of this shortage of dentists in the islands there is considerable talk about plans to use New Zealand type dental nurses as auxiliaries. This program is being established in Jamaica.

With the shortage of qualified dentists, it is not surprising that there is a lot of illegal dentistry in the islands. Trinidad and Tobago have between 100 and



Doctor Trevor Talma of Bridgetown, president of the Barbados Dental Association, works in one of the island's dental clinics. His uncle, the Hon. Cuthbert Talma, is Barbados Minister of Health.

300 illegal practitioners and it is almost impossible to get an accurate estimate of their number.

Most of them only remove teeth, some make dentures but a few are actually so sophisticated that they do fillings. The government does not condone operations by illegal dentists. Neither, however, does it do anything to stop them.

It would be politically unwise for Trinidad's government to terminate these illegal practices because there is such a shortage of dentists. The authorities and the profession have therefore agreed to a plan which will permit the 15 best qualified illegal practitioners to continue with their work. The government will not recognize any of the others and so ultimately it is expected that illegal practice will just die out.

Doctor Robert Brewster, Trinidad's senior dental surgeon, is a dedicated man. He graduated from Northwestern University, Chicago, and earned a master of public health degree at the University of Michigan. Doctor Brewster is in charge of all local dental services. He told me that there are two completely equipped clinics in Trinidad and Tobago which are unused. One of these is in the hospital at Point Fortin in Trinidad. These clinics offer an excellent opportunity

for dentists who would like to get away for a month or so and open them up. There is a problem over maintenance of dental equipment and I received a suggestion that a maintenance man should be sent down to teach islanders how to maintain the equipment.

Journal: What island was your next stopping point?

Burgman: Grenada, where the population is 100,000 and there are five licensed practitioners and about 12 "quacks," as the illegal dentists are called in the islands. It would be impractical to send anyone to work there because there isn't a clinic available for them. The reason for this is the lack of funds, a common denominator in all dental programs. When the government dentists go to an outlying district they take a folding chair which was provided by UNESCO.

St. Vincent, north of Grenada, has 92,000 people and two dentists, each working part-time in private practice. Here, again, there are no clinics available; so even if assistance were requested, there isn't any place for a visiting dentist to work.

Barbados has a population of 252,000 with 15 dentists. Five of them are in government service, each one giving three sessions a week — a session is a half a day or approximately three hours.

This island has a fully equipped clinic at the Queen Elizabeth Hospital in Bridgetown as well as a mobile dental unit. At present these are manned on a sessional basis — three sessions per week — by the part-time government dentists.

Most of the service given by the government dental personnel consists of emergency extractions. Very few, if any, fillings are done. It's practically an insurmountable problem to just get rid of the toothaches that exist. The other big problems are oral hygiene and nutrition. I had an opportunity to visit two different schools in Barbados. The children do not brush often enough and their diet is far from good. Almost every school has a vendor at the bottom of the stairs selling candy to the children. In one case the school

principal would not allow this vendor to sell candy at the school door. It turned out later that he had the concession himself. On another occasion, I spoke to a CUSO (Canadian University Service Overseas) teacher who told me she saw a 14 year old girl with a bottle of beer in her school lunch. This local brand is very popular and on the back of the label it's advertised as "breakfast in a bottle."

There is also a dental hygienist working in the government dental program in Barbados — Mrs. Anne Bosy.

Journal: Is she a Canadian?

Burgman: Yes. Mrs. Bosy came under the auspices of CUSO and she's doing a marvellous job. She's from Saskatchewan; so we immediately had a good chat because I'm from Saskatchewan too. Mrs. Bosy told me that one day she saw a child eating what looked like a really tasty hamburger. When she came a little closer she found that instead of hamburger meat in a roll it was really two sugar cakes. Sugar cakes are very popular and you can just visualize what this does to the teeth. In addition, there's a very sweet local pop favoured by the children.

Though Mrs. Bosy does a great deal of valuable work, it is discouraging at times. For example, in talking to the children she tells them not to get their teeth out, but to have them restored. But then, where can they get their teeth filled? There aren't enough dentists to do the work.

Our next island was St. Lucia, where I worked last winter. There are three dentists here, two of them doing part-time government and part-time private practice for the island's 110,000 residents.

The dentists are all in the northern part of the island where there are about 70,000 people. In the southern part of the island a clinic is open possibly a half-day per week for approximately 30,000 inhabitants.

Canadian dentists could really help in St. Lucia. St. Jude's Hospital in the southern part of the island,



Barbadian school children line up outside a mobile dental clinic in the picture at the left. In the background Doctor Florence O'Rourke, senior medical health officer in charge of dental services, is talking to a school principal. Pictured on the right is Mrs. Anne Bosy, a dental hygiene graduate from the University of Toronto, who assists in the Barbados dental program as CUSO volunteer.



Left: in St. Lucia Doctor Burgman re-visited the dental clinic at St. Jude Hospital. He is seen with Mr. William Joseph who is being trained as a dental assistant. Right: an aerial view of St. Jude Hospital, Vieux Fort, St. Lucia. The dental clinic is in the little wing on the right side near the front.

where I worked the previous winter, has a fully equipped clinic which is unused for about half of the year. It would be a tremendous step forward if this clinic were kept open throughout the year.

North of St. Lucia, the island of Dominica has a population of 70,000 and two dentists. Dominicans need a little encouragement to set up a clinic. Some excellent dental equipment is already available which has not been used at all, a gift from UNESCO. A mobile clinic may also be useful, but the island roads and mountainous terrain are bound to make maintenance a problem.

The next stop was Antigua. This small island has two dentists and five illegal practitioners to serve a population of about 65,000.

We then visited St. Kitts with a population of 38,000 and the adjoining island of Nevis with 12,000 people. About a year ago, the people of Nevis were given a fully equipped clinic which has never been set up. It's still just sitting there in the crates. Basseterre, St. Kitts, also has a hospital dental clinic which is fully equipped but only used one-and-a-half-days a week. So, in this area there would be no problem in finding a suitable working environment.

In St. Kitts, too, I had the pleasure of visiting Doctor and Mrs. David Boyd. Dave, a Toronto graduate of '48, hails from Dominica but now makes his home in St. Kitts. He goes over to Nevis one day a month to do emergency extractions; also once or twice a year for a three weeks' stretch when he does restorative treatment. We spent many hours talking about the islands and dentistry and reminiscing about Toronto.

Jamaica has 1,900,000 people. With 99 dentists there is a dentist-population ratio of one to 20,000. The island's senior dental officer, Doctor Audley Edwards, took me to see one of his dental clinics. He was unhappy because only extractions are done at these clinics. I think it must be depressing for a dentist to take a job like this and not have the opportunity to practise all phases of his profession.

The most significant thing in Jamaica is the new school for training dental nurses on the New Zealand

pattern. I was impressed with the beautiful building they have for this school. It was still under construction at the time of my visit but was due to open in February of this year. The authorities expect to have their first 20 graduates in two years. By then they also hope to have 11 more dentists who are now studying overseas. These men are being assisted with scholarships. Ultimately, this will give a ratio of one dentist to four dental nurses. They would also like a sufficient number of dental assistants so as to give each dentist a chairside assistant.

I had an interview with Doctor Samuel Street, the chief medical officer, who feels that we could help in many fields, notably dental public health education. He would be most happy to have Canadian dentists come and work in Jamaica. He is also anxious to implement fluoridation.

From Jamaica we went to the Turks and Caicos islands. These are the first islands north of Haiti and the Dominican Republic. To get from island to island you have to go by boat or fly. They are linked by a small air service and I used this to visit three other islands besides Grand Turk, where we stayed. I visited local schools on two of these islands and looked at perhaps 30 of the children. As in the other Caribbean islands, oral hygiene is a big problem. If a tooth starts to decay nothing is done until it finally aches and must be extracted. And out of 150 children in another school only three had ever been to a dentist and each had had one extraction. None of the 150 children had ever had a filling.

In most of the islands fluoridation is virtually impossible since many have no central water supply or even chlorinated water. But the Turks and Caicos islands have only a small population and it may be practical to distribute fluoride tablets through the schools.

In Nassau on New Providence, our last stop, I met a former Toronto dentist, Doctor Hal Leyland, who still maintains his membership in the CDA and the Royal College of Dental Surgeons of Ontario. He has done a



Marigot Hospital on the east coast of Dominica. The small building on the right houses the operating room. This hospital is staffed on a rotating basis by physicians from British Columbia. The building contrasts sharply with a much newer, fully equipped hospital in the capital, Roseau, on the west coast, which was given to the island by Great Britain.

tremendous amount to organize, maintain and operate a clinic on Long Island.

Journal: What is the most useful role Canadian dentists could play in the Caribbean?

Burgman: The most immediate need is treatment for the relief of pain. This brings up the question of manpower. Some of the islands could certainly benefit from help by Canadian dentists. We could also supply hygienists to develop educational programs and give topical fluoride applications.

For the near-term, we should give as much assistance as is practical in the entire Caribbean region and then reassess our program after a few years. Barbados presents a specific example. Its health minister is very interested in dentistry; so is Doctor Florence O'Rourke, the island's senior medical officer, who is in charge of the dental program. Both would like some aid in reorganizing the existing dental services. For this they need a dentist with administrative and organizational skills. One such dentist for a year would be preferable; but two dentists, each on a six month assignment, could also help tremendously provided they adhere to a predetermined pattern and don't change the program in mid-stream.

Journal: How can dental auxiliaries contribute in the Caribbean setting?

Burgman: Most island dentists gravitate toward private practice because there is insufficient incentive to accept full-time employment by government. Money is the big problem and government resources are limited. I therefore believe that auxiliaries may be the only answer.

Dentists naturally fear that dental nurses may take on responsibilities that exceed the scope of their training. But in Jamaica they are working toward a ratio of one dentist for every four dental nurses. Adapted to the clinic setting they have in mind, this may satisfy the requirements of supervision.

Journal: What will the Jamaican dental nurses be permitted to do?

Burgman: They will instruct children in oral care, apply preventive agents like topical fluoride, and do some simple restorative procedures. This includes scaling and polishing of the teeth. They will do rou-

tine examinations and charting. They will give local anaesthetics and extract primary teeth and roots not covered by tissue. These nurses are also being trained to recognize malocclusion and refer such cases to a dentist.

Journal: Is fluoridation feasible in any of the islands?

Burgman: Yes. It is eminently suitable in Barbados which has a piped water system serving the entire island. I would also recommend fluoridation in certain larger centres, like Roseau on Dominica, where improvement of the public water system is contemplated.

Journal: What kind of dental equipment is needed in the islands?

Burgman: They need very basic equipment. Even just a slow-speed drill would mean that once in a while a dentist could do a restoration; and every restoration counts in educating the people to a better type of service. But whatever equipment may be sent, it is imperative to have someone go down and make sure that it is properly installed and used effectively. I saw two instances of equipment that had been received but was not installed — in one case for a year and in another case for three years.

Journal: Do you intend to go back again?

Burgman: I certainly do. I'm looking forward to it. There are problems and frustrations; but the satisfactions, the challenge, and the change from the routine at home make it all worthwhile.

Journal: Would you recommend that other dentists investigate the possibility of serving in this area?

Burgman: If a dentist has a taste for adventure and a sincere desire to help some very fine people who are struggling to improve the quality of their life, by all means I would recommend service in this area. It could be for several weeks or several months. Whatever the length may be, the rewards are beyond description. They manifest themselves in a sense of accomplishment, pride in our profession, a sense of being truly needed and appreciated; and these rewards are lasting. I shall never forget the way I felt toward the people I served and I hope they'll remember me.

Dentistry in the news

The Association



The CDA Executive Council held its midyear meeting February 23-25 at Association Headquarters in Toronto. Among the council's important decisions was a resolution endorsing the general principle of price restraint and urging provincial dental associations to postpone or limit increases in fee schedules during 1970.

CDA joins national anti-inflation campaign

The Canadian Dental Association has thrown its weight behind the effort to fight inflation. Its Executive Council, recognizing that provincial associations are responsible for establishing their own fee schedules, passed a motion February 25 urging the 10 provincial organizations to postpone or limit increasing fee schedules for 1970.

In announcing the action, CDA President H. R. MacLean said, "As providers of essential services, members of the CDA are concerned not only with the physical health of Canadians, but also with the economic and social health of Canada."

"Recognizing the severe inflationary spiral operating in Canada and conscious of our responsibility to do all we can to alleviate the problem," said Doctor MacLean, "the Executive Council of the CDA is encouraging the provincial dental associations and its individual members, in the national interest, to keep increases in fees and fee sched-

ules well within the increases brought about by rising office expenses during the remainder of 1970."

Doctor MacLean continued, "At the invitation of the federal government, CDA representatives attended the National Conference on Price Stability where the desirability of voluntary, rather than mandatory, price restraint was stressed."

"This attitude," said Doctor MacLean, "was endorsed by industry, the professions and government, and it is this approach of self-imposed voluntary restraint that we shall be communicating through the provincial organizations to our membership."



The Council on Education met at CDA Headquarters, February 18-20. Pictured above (l to r) are K. J. Paynter, Saskatoon, behind W. I. Jackson, Winnipeg; M. J. T. Dohan, Victoria; W. J. Dunn, chairman, London; J.-P. Lussier and Jean Yergeau, Montreal; and J. E. Speck, Toronto.

Doctor Taylor nominated as CDA treasurer

J. Bruce Taylor, London, has been nominated treasurer of the Canadian Dental Association, succeeding G. M. Dewis, Halifax, who resigned last year. The appointment is subject to ratification by the Board of Governors at the 1970 annual session.

Doctor Taylor, whose father, Harold Dixon Taylor, is also a dentist, has

served as president of the Ontario Dental Association (1966-7) and the London and District Dental Society (1952-3). He was also on the CDA's Board of Governors (1967-9) and Executive Council (1968-9).

Doctor Dewis was the Association's treasurer since 1961. In accepting his resignation, the Executive Council expressed warm appreciation for the services which Doctor Dewis has rendered the Association during the past nine years.



J. B. Taylor



Another in the busy round of meetings at CDA Headquarters was that of the Dental Services Committee which met March 11-12. Pictured are R. G. Dickson, Drumheller, Alta; K. F. Walsh, St. John's, Nfld; Henri Hamel, Quebec City; D. A. Eisner, Halifax; Mrs. J. Jermyn, secretary of CDA councils and committees; Executive Director W. G. McIntosh; and Dental Services Committee Chairman P. E. Curry, London.



Participants at the March 9-10 meeting of the CDA Auxiliary Services Committee cast admiring glances at Patricia Johnson, president of the Canadian Dental Hygienists Association. Seen with Mrs. Johnson, from the left, are W. H. J. O'Driscoll, St. John's, Nfld; T. A. Cacchioni, Vancouver; E. F. Allison, Auxiliary Services Committee chairman, Edmonton; and H. C. Stewart, Kensington, PEI.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on February 28, 1970:

Government Bond Fund — \$13.749
(\$13.761 February 28, 1969; \$13.522 February 28, 1965);

Corporate Bond Fund — \$15.028
(\$14.944 February 28, 1969; \$14.233 February 28, 1965);

Common Stock Fund — \$24.031
(\$25.705 February 28, 1969; \$19.962 February 28, 1965).

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA Retirement Savings Plan, offers three separate investment media: a government bond fund, a corporate bond fund and a common stock fund. Contributions may be allocated wholly or partly to the funds of the contributor's choice. Transfers between funds are allowed without penalty.

The government bond fund, confined to guaranteed government bonds and other guaranteed fixed income securities, offers excellent income with high security. The corporate bond fund, confined to bonds, debentures, preferred shares and other fixed income securities, offers maximum income. The common stock fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

No charges or commissions are payable on joining or withdrawing from the plan.

For further information please write to CDA-sponsored Pension and Insur-

ance Plans, 230 St. George St, Toronto 180, Ont.

Merge two funds in CDA retirement plan

The government and corporate bond funds of the Canadian Dental Association's Retirement Savings Plan are to be merged into a single fixed income fund. The decision, made when the Insurance Committee met at CDA Headquarters March 2-3, does not affect the plan's third fund — the common stock fund. Unit valuations for the various funds are quoted monthly in the Journal.

The committee will also investigate the possibility of sponsoring insurance against major medical and hospital expenses incurred by CDA members in all provinces. Only Ontario has such a program at present.

National Convention

Board of Governors meeting set

The Executive Council has issued the following schedule and agenda for the Board of Governors meeting in Winnipeg. All sessions will be held at the Fort Garry Hotel.

Monday, June 29

- 9:00 Call to order
- Invocation
- Official call of the meeting
- Presentation of credentials
- Roll call
- Special orders of business
- Adoption of agenda
- Minutes of previous meeting
- Necrology report
- President's report
- Reference committee assignments
- Assignment of submitted resolutions
- Manual for conduct of meetings
- 10:00 Reference committees meet
- 2:00 Reference committees meet
- 8:00 Reference committees meet

Tuesday, June 30

- 9:00 Reference committees meet
- 2:00 Second session of Board
- Presentation by Royal College of Dentists of Canada
- Presentation by Canadian Fund for Dental Education
- 8:00 Reference committees meet

Wednesday, July 1

- 9:00 Third session of Board
- 10:00 Report of Council on Constitution and By-laws
- 2:00 Fourth session of Board
- Treasurer's report
- Nominating Committee report
- Elections
- Unfinished business
- Adjournment



Munich: Marienplatz Square with City Hall and Cathedral.

International Items

FDI meets in Munich next year

Headquarters for international dentistry will be in Munich when the Fédération Dentaire Internationale holds its 1971 annual meeting — the 59th — in West Germany. The meeting is scheduled for June 16-22.

The five day scientific program will be supplemented by an international dental trade show.

The social program will include a Bavarian evening in the Löwenbräu (Bavarian Beer Festival), symphony concerts and opera performances at the Bavarian National Theatre.

Munich lies near the fringe of the Bavarian Alps. The city is a starting

point for excursions to the many nearby lakes and Alpine foothills.

For further information, please write to: Rolf Braun, Secretary General of the Organizing Committee, 59th Annual FDI Session, Universitätsstrasse 73, 5 Cologne 41, West Germany.

Dental students to meet in Berlin Aug 2-12

The 17th Congress of the International Association of Dental Students will be held in West Berlin, Germany, August 2-12.

The opening session will take place in the Freie Universität Berlin August 2. Social events are planned for each day of the congress and will include visits to the Springer Publishing Company, a porcelain factory, the opera and a den-

tal clinic in East Berlin. The annual ball and dinner will be held August 12.

The fee for attending the congress, including the entire program, food and lodging, is \$55 (US) per person. Non-members and qualified dentists may enrol as supporting members of IADS (\$3 US per year) and be eligible to participate in the congress for \$55 (US).

For further information, contact Jan Günther Frenzel, Secretary of the Congress Committee, Ebereschentallee 23, 1 Berlin 19, Germany.

Information about IADS may be obtained from Miss Aase Møller, Livjærgade, 21-4, DK-2100 Copenhagen Ø, Denmark.

British anaesthesia group starts new publication

SAAD *Digest* is the name of a new quarterly publication issued by the British Society for the Advancement of Anaesthesia in Dentistry. The first issue was published in January of this year.

Readers who seek further information about the society or SAAD *Digest* are invited to write to H. Mandiwall, President, SAAD, 53 Wimpole St, London W1M 7DF, England.

US dentistry faces major manpower crisis, practitioner says

American dentistry stands "in the midst of a major health crisis," conference participants at American Dental Association headquarters were told last February. The word came from J. S. Zapp, a general practitioner from Portland, Oregon, who was recently appointed

special assistant for dental affairs and acting deputy assistant secretary for health manpower in the US Department of Health, Education and Welfare.

He explained that the crisis is manpower: "Professional manpower is in short supply and is unevenly distributed, while demands for service are rising higher and higher. Despite the gains made under federally supported expansion programs, education and treatment facilities are inadequate and the cost of training and treatment go up at an unprecedented rate," Doctor Zapp said.

Experts predict that American dentistry will have to double its present capabilities by 1980, Doctor Zapp pointed out. This would mean having some 168,000 dental practitioners in 10 years.

Recruitment, full utilization of dental auxiliaries and continuing education were suggested by Doctor Zapp as remedies to the manpower problem.

Doctor Zapp added: "As we move toward a more intelligent use of auxiliaries, we have an opportunity to give some thoughtful consideration to the men and women who might find their future in these new fields. I would especially like to see the profession take responsibility for training male hygienists. I have in mind a special group recruited from discharged military personnel," he said.

Conference on surgical orthodontics slated for Chicago in June

"Surgical Orthodontics" is the subject of the American Association of Ortho-

dontists and American Society of Oral Surgeons 1970 Joint Continuing Educational Conference. The conference will be held in Chicago June 8-9, 1970 at the Sheraton-Chicago Hotel.

Designed to provide orthodontists, oral surgeons and other interested persons with up-to-date information on the clinical management of surgical orthodontic problems, the conference will emphasize the team approach and the importance of consultation between the oral surgeon and the orthodontist in the delivery of quality dental care.

Subject coverage on clinical implications of dentofacial growth includes consideration of growth of the facial bones, cephalometrics as a diagnostic tool, and growth of the dentition and its supporting structure.

Under the topic of management of maxillary and mandibular disharmonies there will be discussions on the orthodontic and the surgical approach to Class II, Division 1 malocclusions and Class III malocclusions.

Evaluation of the third molar problem and of unerupted teeth will be considered on the second day of the conference. Other speakers will deal with soft tissue problems and with corticotomy.

The conference concludes on the general subject of sequelae of traumatic and pathological changes.

A special motion picture program presenting the latest films on surgical orthodontics is scheduled on Sunday evening preceding the conference and on Monday evening.

Attendance is open to all members of the health professions. The registration fee, including two luncheons, is \$50 for AAO and ASOS members, \$75 for non-members. The program and



The Alberta Dental Association recently elected its 1969-70 Board of Directors. Shown above are: front row (l to r) L. G. Mandin, St. Paul, past president; G. E. Decker, Edmonton, executive director; A. D. Sparrow, Calgary, president; J. C. Waddell, Calgary, president-elect; and B. G. Saik, Calgary; back row (l to r) R. A. Gray, Medicine Hat, representative to the CDA Board of Governors; R. G. Dickson, Drumheller; G. S. Sakumoto, Taber; and B. A. Low, J. E. L. Mathieson and J. S. Little, all of Edmonton.

registration form will be available April 1 from the American Society of Oral Surgeons, 211 East Chicago Avenue, Chicago, Illinois 60611, USA.

Berkshire conference slated for June 14-18

Tufts University annual Berkshire Conference in Periodontology and Oral Pathology will be held at Eastover in Lenox, Mass, June 14-18. The conference is open to general practitioners and dentists in specialized practice. Further information and application forms may be obtained by writing to Tufts 21st Annual Berkshire Conference, 136 Harrison Ave, Boston, Mass 02111, USA.

Histology of the oral mucosa symposium in Chicago in June

The College of Dentistry, University of Illinois at the Medical Centre, Chicago, will hold a symposium on current concepts of the histology of the oral mucosa, June 18-19. Further information may be obtained from C. A. Squier at the college, 808 South Wood St, PO Box 6998, Chicago, Illinois 60680, USA.

Dental Organizations

Quebec oral surgeons elect Dr. Charest

André Charest of Plessisville is the new president of the Association of Oral Surgeons of Quebec. He succeeds W. B. Donohue of Montreal. Other officers named with Doctor Charest are: M. Gornitsky, Montreal, vice-president; Paul Mercier, Montreal, secretary; and K. C. Bentley, Montreal, treasurer.

Dr. Nadeau elected by Quebec orthodontists

J. R. Nadeau, Montreal, recently succeeded M. H. Wechsler, also of Montreal, as president of the Province of Quebec Association of Orthodontists.



J. R. Nadeau

H. L. Levitt and Claude Baril, both of Montreal, were elected vice-president and secretary respectively. The treasurer is J. E. Lemay of Sherbrooke. W. Swiston, Westmount, is active member without portfolio.

Dr. Laidlaw heads Sault Ste. Marie dentists

A. S. Laidlaw was recently elected president of the Sault Ste. Marie and District Dental Society. Also elected were: M. H. Wood, vice-president; G. A. Shunock, treasurer; and A. C. Bruni, secretary.

Regional Conventions

Quebec association will meet in Montreal May 21-22

The Quebec Dental Surgeons' Association — successor to the former Dental Association of the Province of Quebec and the Professional Association of Dental Surgeons of Quebec — will hold its first annual convention at the University of Montreal May 21-22.

Participants in the scientific program include D. W. Cohen, chairman of the Department of Periodontics at the University of Pennsylvania, who will speak on "New Concepts in Periodontics," and Bejan Iranpour, chairman of the Department of Oral Surgery at the Eastman Dental Centre, Rochester, NY, who will discuss "Oral Surgery and Anaesthesia for the General Practitioner."

For further information, please write to Mrs. M. Therrien, Quebec Dental Surgeons' Association, 880 Henri Bourassa Blvd East, Montreal 358, Que.

Dental Education

Educational opportunities

Continuing education

University College, London, England, offers two postgraduate courses in techniques of intravenous analgesia and anaesthesia for general dentistry. The courses, sponsored by the British Society for the Advancement of Anaesthesia in Dentistry, will be held July 11-13, 1970 and January 2-4, 1971. The registration fee for each course is \$63 (US). Direct inquiries to the British Society for the Advancement of Anaesthesia in Dentistry, 53 Wimpole St, London W1M 7DF, England, or to C. E. Murphy, Fairleigh Dickinson University Dental School, Teaneck, New Jersey 07666, USA.

Temple University School of Dentistry, Philadelphia, offers two postgraduate

courses in intravenous anaesthesia. The courses, sponsored by the British Society for the Advancement of Anaesthesia in Dentistry, will be held June 16-17 and June 18-19, 1970. The registration fee is \$125. Direct inquiries to the Department of Continuing Education, Temple University School of Dentistry, 3223 North Broad St, Philadelphia, Pa 19140, USA.

Special course

University of Toronto School of Hygiene offers an advanced program in health services organization and administration for persons with experience and administrative responsibility in public health, health insurance plans, universities, professional associations, and other government and private agencies with health services interests. The program is conducted in two parts: October 5-13, 1970 and March 1-26, 1971.

The first course includes a review of health services in Canada; health functions of different levels of government; public health patterns; voluntary health agencies, welfare programs and their relation to health care; manpower planning, supply, education, distribution and use of dentists, health administrators and other health care personnel; personnel management and collective bargaining in the health field; and uses of epidemiological methods in health care planning.

The second course deals with health economics; financing health care in Canada; the budgetary process; economic incentives and controls; administration and management principles; regional organization of various health services; quality measurement and control; health services in relation to the political and administrative process; and health services in relation to overall social policy.

Participation in the second course is dependent on previous participation in the first. The registration fee for each course is \$200. Direct inquiries to R. D. Barron, Secretary, School of Hygiene, University of Toronto, Toronto 5, Ont.

Royal Canadian Dental Corps

Dental Corps gets new badge

The Royal Canadian Dental Corps has a new official badge. It consists of a gold cartouche charged with a rod and serpent (the Rod of Aesculapius), a Crusader sword and a superimposed Greek letter delta. The cartouche is surrounded by a wreath of stylized gold maple leaves and surmounted by the royal crown.



Collar badges consist of the device only (Rod of Aesculapius, Crusader sword and letter delta). They are worn in pairs, with the serpents facing inward.

Economics

Dental insurance would add \$130 million to Ontario medicare

Ontario Health Minister Thomas Wells has estimated that provincial medicare costs would rise by more than 50 per cent if drugs and dentists' bills were paid by the plan.

He said that adding dental charges would cost \$130 million a year.

He did not say how much of the figure was dentists' fees and how much would be administrative costs of processing and paying them.

He said covering drugs would cost \$128 million.

Mr. Wells detailed the costs of the current medicare program as \$508 million a year, including \$28 million for the program's administration. He said the sources are \$309 million from individuals' premiums "at the present rate," \$168 million in federal grants and \$31 million from general provincial revenue "to balance the total."

Dental insurance for American 3M employees

A dental prepayment program for Minnesota Mining and Manufacturing (3M) employees covered by a salaried benefits program went into effect March 1. Coverage for 3M employees and their dependants affects employees in every American state and totals more than 25,000 nation-wide.

The plan pays 75 per cent of reasonable and customary fees for most dental procedures, including twice yearly check-ups. It pays 50 per cent for prosthodontic and orthodontic procedures. The plan has a \$1.25 deductible. Orthodontics is subject to a lifetime maximum benefit per individual of \$750.

Other maximum benefits are \$1,000 per calendar year and a total of \$2,500 lifetime per individual.

The dental plan is part of an insurance package for salaried 3M employees.

New Brunswick to join medicare next January

New Brunswick will join the federal medical care program next January, and Ottawa will pay about 70 per cent of the cost, Premier Louis Robichaud announced March 5.

New Brunswick was one of the first provinces to commit itself to the scheme and will be the last to enter. All other provinces but Quebec and Prince Edward Island are operating medicare programs and the latter two are set to join later this year.

The premier said the program will cost about \$24 million in the first year, equivalent to 7 per cent of last year's provincial budget, but there will be no premiums and no tax increases are planned to pay for it.

He said it is within the present financial capabilities of the province to finance its portion of the scheme. "There may be some variations in the tax structure in the province but no substantial tax increases."

Research

US Research Institute intensifies campaign to eradicate caries

The US National Institute of Dental Research has requested an additional \$5 million in the next fiscal year for a concerted effort to make tooth decay almost completely preventable by 1980.

A 10 year program for intensified research and development identifies promising leads to be pursued by the Institute through intramural and extramural studies. This multi-pronged program includes:

Studies of intensive local application of fluoride to the teeth to supplement protection afforded by water fluoridation;

Research with new improved adhesives which can seal off and effectively protect especially vulnerable tooth surfaces from caries;

Testing antibiotics and antiseptics for use in human oral hygiene and the control of cariogenic bacteria;

Studies with enzymes, such as dextranase, to determine whether they can be used effectively to reduce caries in humans; and

Measurement of the efficacy of dietary phosphates and trace elements as adjuncts to caries prevention.

New liquid plastic coating used to prevent decay

Dentists soon may have a new, easy-to-use decay preventive if further tests confirm preliminary success obtained by Michael Buonocore of the Eastman Dental Centre in Rochester, NY. Doctor Buonocore has reported that coating the tooth's occlusal surface can keep it free of decay for at least one year.

In the preliminary trial 200 occlusal pits and fissures of healthy teeth in some 60 children were coated with a plastic adhesive paint. One application of the adhesive (a resin made by combining Bis Phenol A, glycidyl methacrylate and methyl methacrylate monomer) protected the surfaces for one year. In contrast, decay formed on 84 of 200 untreated areas in comparable teeth on the other side of these children's mouths. The material proved equally effective on primary and permanent teeth.

The coating works because it prevents entrapment of food and cariogenic bacteria in the tiny crevices on the grinding surfaces. More cavities begin in these places than on other tooth surfaces.

The adhesive holds much promise not only because it appears effective but also because it is so easy to use that dental hygienists could relieve the dentist of this task. It will not set until an ultraviolet lamp is focused on it. The UV rays activate a chemical (benzoin methyl ether) added to the material that makes the resin harden immediately.

In the trials Doctor Buonocore used a gun-shaped lamp with an intra-oral mirror extending from it. The mirror is held close to the tooth so that the UV rays are reflected from the mirror onto the coated surface. He said that the lamp is being streamlined for dental use.

Describing his preliminary evaluation of his treatment, Doctor Buonocore said "the adhesive was retained for one year in all but one of the 200 treated pits and fissures, and showed little or no wear even in the finest crevices." Six months after treatment, all surfaces were still completely covered with adhesive with no decay apparent. Between the six month and one year evaluations, the resin wore off from one fissure but no decay formed. After one year, 195 of the coated pits and fissures showed the adhesive in excellent condition with little or no wear while the remaining four were in good condition, with about half the resin adhesive worn away but still completely covering the fissure.

To verify the resin's protection against decay, Doctor Buonocore removed the coating from 27 fissures selected at random. All were decay-free.

Doctor Buonocore's study is being expanded to include a larger number of children who will be followed for at least three years.

These materials are not yet commercially available. However, marketing of an integrated kit consisting of the adhesive, activator and the UV light is expected shortly.

Fluoridation

Moncton and Edmundston move to fluoridate

Moncton city council, last December 12, agreed to the implementation of controlled fluoridation of the city's water supply in "consultation and cooperation" with surrounding communities using city water.

Council gave its approval "in principle" to the fluoridation program following presentation of a strongly backed presentation from the Moncton Dental Society.

Edmundston city council also voted on December 15 to fluoridate that city's water supply.

Public Health

Brominated vegetable oils restricted in citrus drinks

National Health and Welfare Minister John Munro has announced that manufacturers will be required to reduce the concentration of brominated vegetable oils in citrus-flavoured drinks to not more than 15 parts per million instead of present levels as high as 150 ppm.

The minister explained that investigations carried out in the Food and Drug Directorate laboratories have raised doubts about the safety of brominated vegetable oils. These compounds have been used for many years as a component of the flavour in certain citrus-flavoured drinks.

"As a result of these investigations," said Mr. Munro, "I have decided to reduce the amount of brominated vegetable oils permitted in foods sold in Canada. Manufacturers have been advised to make necessary changes as soon as possible, and, in any case, before July 1."

In the investigations carried out by departmental scientists, rats given high



Montreal orthodontist Gerald Franklin, right, holds a certificate of honorary membership in the Province of Quebec Association of Orthodontists. With Doctor Franklin, at the formal ceremony January 19, were M. H. Wechsler, left, immediate past president, and J. R. Nadeau, president.

doses of brominated vegetable oils developed heart lesions and impaired heart function. Smaller doses had no effect. It was possible, therefore, for scientific advisers to determine a daily intake of brominated vegetable oils which is safe and acceptable for human beings.

"This level of intake was considered," said Mr. Munro, "to be 0.5 mg/kg of body weight, which is one one-hundredth part of that which produced no harmful effects in experimental animals."

Deaths

Boissonneault, Polydore. 55. Gentilly, Qué. Université de Montréal, 1942. 29-1-70.

Mongeau, Eldor. 70. Montréal. Université de Montréal, 1924. 10-2-70. Survéu par Marie-Anne (épouse); le Dr Raynald (fils); Mme V. M. Surprenant et Mme Raymond Morency (filles); Sylvie, Lyse et Marc Mongeau, Hélène et Louise Surprenant, et Jean-Guy et Jocelyne Morency (petits-enfants).

Philp, Gerald Meredith. 75. Hamilton, Ont. Royal College of Dental Surgeons of Ontario, 1922. 1-3-70. Survived by Alma (wife); Paul (son); Mrs. Angus Macpherson (daughter); Mrs. Mabel Thompson and Mrs. Mary Harvey (sisters); and five grandchildren.

Skudwick, Abraham. 50. Hamilton, Ont. University of Toronto, 1943. 24-1-70. Survived by Mrs. A. Marcus (sister).

Stewart, Harry Allan. 77. Kingston, Ont. Royal College of Dental Surgeons of Ontario, 1914. 22-2-70.

Stewart, James Lloyd. 75. Hamilton, Ont. Royal College of Dental Surgeons of Ontario, 1919. 14-2-70.

Awards and Appointments

Life membership in the Alberta Dental Association was recently conferred on **J. B. Long** of Red Deer, Alta. An engraved silver tray was also presented to Doctor Long to commemorate the many achievements of his distinguished career in dentistry.

D. G. Woodside, professor and head of the Department of Orthodontics, University of Toronto, received a special award of merit in the American Association of Orthodontists' Milo Hellman Research Award competition on April 6. Doctor Woodside earned the award for his thesis on mandibular growth in Canadian males and females aged 3-20 years.

Montreal orthodontists **Gerald Franklin** and **Paul Geoffrion** were recent recipients of honorary memberships from the Province of Quebec Association of Orthodontists. This year marks the twentieth anniversary of the PQAO.

Recently named as assistant dean of the Faculty of Dentistry, Dalhousie University, Halifax is **R. H. Bingham**, professor of oral diagnosis.

St. Thomas, Ont, dentist **C. M. Finlay** has been appointed vice chairman of the Board of Governors of Fanshawe College.

L'Association

L'ADC se joint à la campagne nationale contre l'inflation

L'Association Dentaire Canadienne s'est unie à l'effort de lutte contre l'inflation. Reconnaissant que les associations provinciales ont la responsabilité d'établir leur propre échelle d'honoraires, le Conseil Exécutif a passé le 25 février une motion recommandant aux 10 organismes provinciaux de retarder ou de limiter les augmentations d'honoraires pour 1970.

En annonçant la nouvelle, le président de l'ADC, le Dr MacLean a déclaré: "Les membres de l'ADC, parce qu'ils ont la charge de services de première nécessité, ne s'occupent pas seulement de la santé physique des Canadiens mais ils s'intéressent aussi à la santé économique et sociale du Canada".

"Reconnaissant la gravité de la spirale inflationnaire qui sévit au Canada et conscient que nous avons la responsabilité de tout faire pour alléger le problème", a dit le Dr MacLean, "le Conseil Exécutif de l'ADC encourage les associations dentaires provinciales et ses membres individuels, dans l'intérêt national, à maintenir les augmentations d'honoraires et d'échelles d'honoraires dans les limites des augmentations provoquées par la hausse des frais de bureau pour le reste de l'année 1970".

"Sur l'invitation du gouvernement fédéral", a poursuivi le Dr MacLean, "les

représentants de l'ADC ont assisté à la Conférence nationale sur la stabilité des prix, où l'on a souligné qu'il était préférable que les limitations sur les prix soient volontaires plutôt qu'obligatoires".

"Cette attitude", a dit le Dr MacLean, "a été appuyée par l'industrie, les professions et le gouvernement, et c'est cette même attitude de restrictions imposées à soi-même que nous communiquerons à nos membres par l'intermédiaire des organismes provinciaux".

Le Dr Taylor est nommé trésorier de l'ADC

Le Dr J. B. Taylor, de London (Ont), a été nommé trésorier de l'Association Dentaire Canadienne, en remplacement du Dr G. M. Dewis, de Halifax, qui a démissionné l'année dernière. Sa nomination est sujette à la ratification du Bureau des Gouverneurs lors de la session annuelle de 1970.

Le Dr Taylor, dont le père, Harold Dixon Taylor, est également dentiste, a été président de l'Association Dentaire de l'Ontario (1966-67) et de la Société Dentaire de London (1952-53). Il a fait partie du Bureau des Gouverneurs de l'ADC (1967-69) et de son Conseil Exécutif (1968-69).

Le Dr Dewis était trésorier de l'Association depuis 1961. En acceptant sa démission, le Conseil Exécutif a exprimé sa reconnaissance pour les services que le Dr Dewis a rendus à l'Association depuis neuf années.

Congrès national

Réunion du Bureau des Gouverneurs

Le Conseil Exécutif communique l'horaire et l'ordre du jour suivants pour la réunion du Bureau des Gouverneurs à Winnipeg. Les séances auront toutes lieu à l'hôtel Fort Garry.

Lundi, le 29 juin

- 9:00 Rappel au règlement
Prière
Ouverture officielle de l'assemblée
Présentation des lettres de créance
Appel nominal
Questions spéciales à l'ordre du jour
Adoption de l'ordre du jour
Procès-verbal de l'assemblée précédente
Rapport du Comité de nécrologie
Rapport du Président
Attribution des comités d'étude
Attribution des résolutions présentées
Aide-mémoire pour la conduite des assemblées
- 10:00 Réunion des comités d'étude
- 14:00 Réunion des comités d'étude
- 20:00 Réunion des comités d'étude

Mardi, le 30 juin

- 9:00 Réunion des comités d'étude
- 14:00 Deuxième assemblée du Bureau
Présentation du Collège royal



Le Conseil d'hygiène publique, lors de sa réunion au secrétariat de l'ADC les 16 et 17 mars, a décidé d'offrir une rubrique traitant de l'hygiène dentaire aux journaux hebdomadaires canadiens. Ci-dessus, on reconnaît W. C. King, de Halifax, qui a participé en tant qu'observateur et membres du conseil: N. J. Layton, de Truro, N.-E.; K. W. Davey, président du conseil, de Toronto; C. H. McCormick, de Winnipeg; et Yves Lafleur, de St-Hyacinthe, Qué. M. L. H. Bowen du Bureau des renseignements au public est assis à côté du Dr Lafleur.

des chirurgiens-dentistes du Canada

Présentation du Fonds canadien pour l'enseignement dentaire

20:00 Réunion des comités d'étude

Mercredi, le 1er juillet

9:00 Troisième assemblée du Bureau

10:00 Rapport du Conseil de la constitution et des règlements

14:00 Quatrième assemblée du Bureau

Rapport du trésorier

Rapport du Comité des nominations

Elections

Affaires en suspens

Levée de l'assemblée

Le Canada

Avertissement aux dentistes du Manitoba

"Soyez prêts". Tel est le message que l'ancien ministre de la Santé du Manitoba a adressé aux membres de l'Association Dentaire du Manitoba lors de leur congrès le 23 janvier à Winnipeg.

M. Sidney Green, actuellement ministre des Mines, fait partie du comité parlementaire provincial chargé de résoudre le différend qui oppose les mécaniciens pratiquant illégalement à l'Association Dentaire du Manitoba.

Il a déclaré qu'il y avait un besoin urgent de rendre les services dentaires plus accessibles. C'est pourquoi certaines personnes cherchent à se faire traiter par le mécanicien sans passer par le dentiste.

L'état ne tolérerait pas qu'une qualité de soins dentaires soit accessible à certains citoyens et non aux autres. L'état doit avoir le pouvoir de faire appliquer ce même niveau pour tous.

L'ancien ministre de la Santé a aussi critiqué la législation actuelle qui "permet aux professions d'effectuer leurs propres poursuites et d'obtenir leurs propres condamnations".

Quant au domaine des traitements dentaires, a-t-il dit, il peut être possible d'y faire de la place à des gens "qui ne possèdent pas de formation complète en dentisterie". Savoir si ces gens doivent travailler à l'intérieur des limites de la profession ou indépendamment est le problème que le comité parlementaire s'efforce de résoudre.

D'autre part, il a également été annoncé au congrès que l'Association Dentaire du Manitoba attend une réponse à l'invitation qu'elle a faite au gouvernement provincial de nommer un représentant extérieur au Comité de médiation de l'Association.

L'Association a créé un nouveau Comité des affaires auxiliaires. Il recueillera les suggestions des dentistes,

hygiénistes dentaires et assistantes dentaires. Il étudiera aussi la relation dentiste-auxiliaire dentaire ailleurs dans le monde. Après examen par le bureau exécutif de l'ADM, ses conclusions pourraient être incorporées au projet de la nouvelle loi dentaire.

Les délégués ont également accepté un régime conventionnel d'assurance dentaire pour les employés et les familles des membres de l'ADM. Ce régime, offert par la London Life et basé sur le barème d'honoraires de l'ADM, comporte trois options: couverture de base pour les soins dentaires préventifs et options supplémentaires couvrant 50 p.c. du coût des traitements d'orthodontie et de restauration. Le régime de base coûte \$7.50 par famille. Les primes pour chaque option sont de \$2.50.

Le Dr LeClair devient sous-ministre de la Santé nationale

J. Maurice LeClair a été nommé sous-ministre de la Santé nationale, en remplacement de J. W. Crawford, qui a pris sa retraite au mois d'août dernier.

Après avoir été professeur agrégé de médecine à l'Université de Montréal, le Dr LeClair, qui est âgé de 42 ans, a été affecté à la Faculté de Médecine de Sherbrooke en 1965 et en a été nommé doyen en 1968.

Le Dr LeClair a pris une part active à l'Institut National du Cancer. Il est également vice-président du Conseil pour la Recherche Médicale du Canada et de l'Association des Facultés de Médecine Canadiennes.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 28 février 1970:

Fonds d'obligations gouvernementales — \$13.749 (\$13.761 le 28 février 1969; \$13.522 le 28 février 1965);

Fonds d'obligations corporatives — \$15.028 (\$14.944 le 28 février 1969; \$14.233 le 28 février 1965);

Fonds d'actions ordinaires — \$24.031 (\$25.705 le 28 février 1969; \$19.962 le 28 février 1965).

Le paragraphe 79B de la loi régissant l'impôt sur le revenu autorise des contributions non imposables à un programme de retraite personnelle, représentant jusqu'à 20 p.c. du revenu, avec un maximum de \$2,500.

La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC, offre trois sortes de placements distincts: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les contributions peuvent être

faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

Le fonds d'obligations gouvernementales, qui se compose uniquement de bons du trésor et autres sécurités à revenu fixe, offre un très bon revenu avec un risque très faible. Le fonds d'obligations corporatives, qui se compose de bons, d'obligations, d'actions privilégiées et d'autres sécurités à revenu fixe, offre un revenu maximum. Le fonds d'actions ordinaires, qui se compose d'actions ordinaires canadiennes, américaines et étrangères soigneusement choisies, a comme objectif principal l'augmentation du capital.

L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Chronique internationale

Etude sur l'industrie des laboratoires dentaires américains

L'Association Dentaire Américaine et le Battelle Memorial Institute de Columbus, Ohio, ont signé un contrat pour enquêter pendant un an sur l'effet que la technologie moderne pourrait avoir sur le rendement des laboratoires dentaires. Les objectifs de l'étude seront les suivants:

Examiner les pratiques et méthodes de production couramment employées dans les laboratoires dentaires;

Rassembler des renseignements sur les matériaux et les procédés nouveaux qui pourraient être avantageux aux laboratoires; (on cite en exemple une analyse des procédés de l'industrie spatiale en vue de les adapter à l'industrie des laboratoires dentaires);

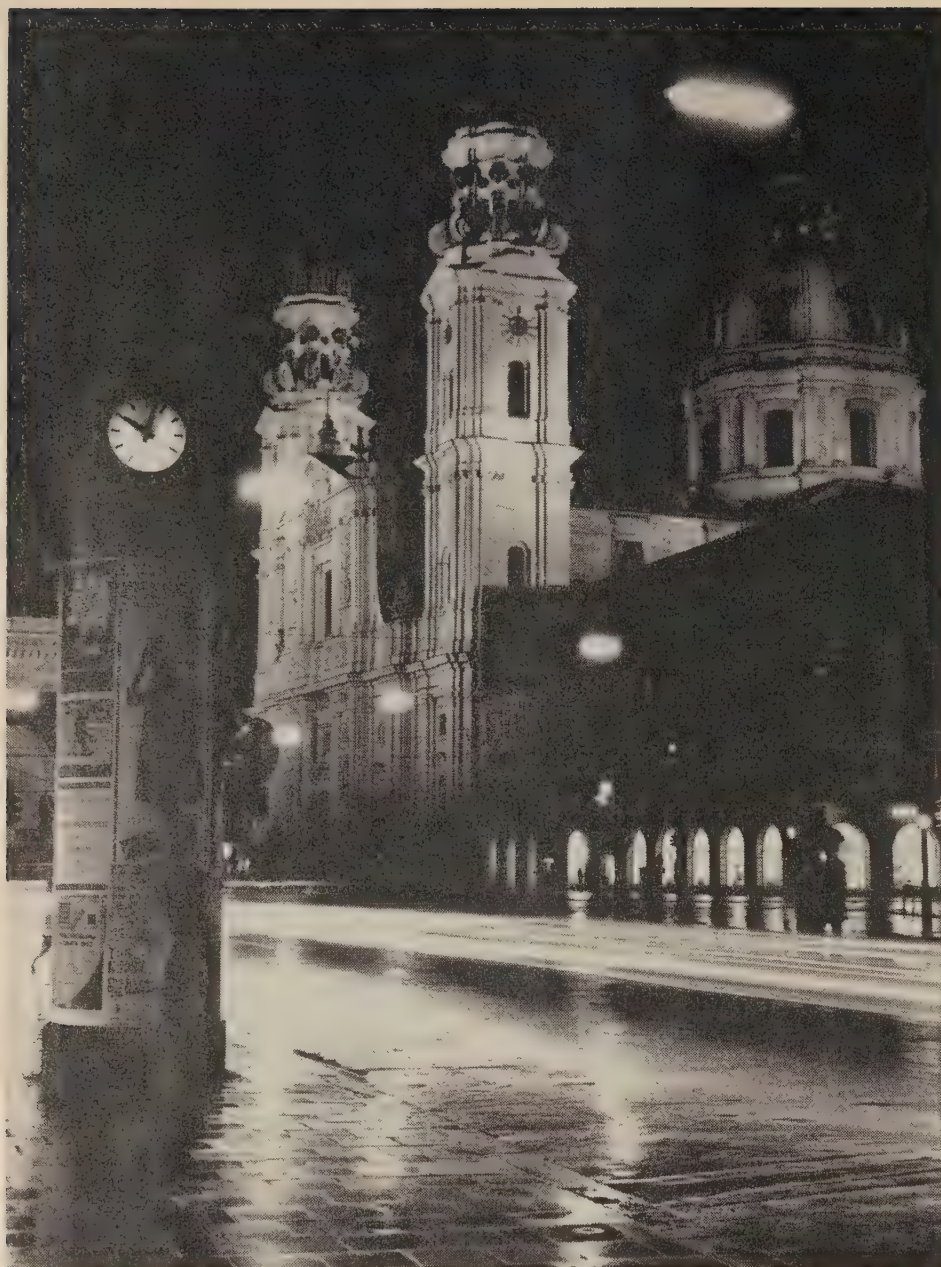
Evaluer techniquement et économiquement les matériaux et les méthodes qui semblent les plus prometteurs;

Fournir un rapport et des recommandations destinées à aider les laboratoires dentaires.

L'étude de la structure économique et de l'organisation de l'industrie des laboratoires dentaires y tiendra également une place importante.

VIIe Séminaire International des Implants-Aiguilles

Le VIIe Séminaire International des Implants-Aiguilles aura lieu à Marly Le Roi, près de Paris, du 20 au 24 mai 1970. Le Séminaire présentera d'importantes communications concernant les quatre techniques actuelles implantaires-aiguilles; à savoir: (1) les implants endo-osseux; (2) les fixateurs de dents



Munich: l'église Theatiner de Saint-Cajetan.

mobiles; (3) les pivots autoforants; (4) les micropost dentinaires autoforants. La première journée sera réservée exclusivement aux néophytes.

Il y aura traduction simultanée en cinq langues, projection des interventions sur écran géant et les déjeuners auront lieu sur place.

Pour tous renseignements, communiquer avec M. Paul Schmitt, Secrétaire général, Société Odontologique des Implants-Aiguilles, 58 rue Notre-Dame de Lorette, Paris-IXe, France.

La FDI se réunira à Munich l'année prochaine

Munich deviendra le quartier général de la dentisterie internationale en 1971 lorsque la Fédération Dentaire Internationale y tiendra sa 59e assemblée an-

nuelle. La réunion est prévue du 16 au 22 juin.

Le programme scientifique de cinq jours sera complété d'une exposition dentaire commerciale internationale.

Le programme social comprendra une soirée bavaroise au Löwenbräu (fête bavaroise de la bière), des concerts symphoniques et des représentations d'opéras au Théâtre national bavarois.

Munich se trouve en bordure des Alpes bavaroises. La ville est ainsi le point de départ de nombreuses excursions vers les lacs et les contreforts alpins.

Pour tous renseignements, écrire à: Rolf Braun, Secrétaire général du comité d'organisation, 59e Session annuelle de la FDI, Universitätsstrasse 73, 5 Cologne 41, République Fédérale de l'Allemagne.

Les organismes dentaires

Direction '70: le Congrès de l'Association des Chirugiens Dentistes du Québec

Le 1er Congrès Annuel de l'Association des Chirugiens-Dentistes du Québec aura lieu à l'Université de Montréal, les 21 et 22 mai 1970. Un imposant programme scientifique sera présenté. Le Dr D. Walter Cohen, professeur et directeur du Département de Périodontie à l'Université de Pennsylvanie parlera des "Nouveaux traitements en périodontie". Le Dr Bejan Iranpour, directeur du Département de Chirurgie buccale au Eastman Dental Centre à Rochester, discutera de la "Chirurgie buccale et anesthésie locale pour l'omnipraticien". D'autres conférenciers de la province de Québec participeront également et leurs noms seront annoncés bientôt.

Pour tous renseignements veuillez écrire à: Mme M. Therrien, Association des Chirugiens-Dentistes du Québec, 880 est, boulevard Henri Bourassa, Montréal 358, Qué.

Le Dr Charest devient président des chirurgiens buccaux

André Charest, de Plessisville, a été élu président de l'Association des Chirurgiens Buccaux du Québec. Il succède à W. B. Donohue de Montréal. Les autres membres du bureau sont: M. Gornitsky de Montréal, vice-président; Paul Mercier de Montréal, secrétaire; et K. C. Bentley de Montréal, trésorier.



Le Dr J. R. Nadeau

Le Dr Nadeau président des orthodontistes du Québec

J. R. Nadeau, de Montréal, vient de succéder à M. H. Wechsler, aussi de Montréal, à la présidence de l'Association des Orthodontistes de la Province de Québec. H. L. Levitt et Claude Baril, de Montréal, ont été élus respectivement vice-président et secrétaire. Le trésorier est J. B. Lemay de Sherbrooke. W. Swiston, de Westmount, est membre actif sans portefeuille.

L'enseignement dentaire

Les dentistes ont participé à la croissance du FCED en 1969

Les dentistes deviennent de plus en plus sensibles au besoin croissant d'enseignants et de chercheurs dentaires. L'année dernière leur contribution au Fonds canadien pour l'enseignement dentaire a augmenté de 36 p.c. selon D. Murray McDonald, directeur général du Fonds. Les contributions personnelles de 1,367 dentistes ont rapporté \$25,660 en 1969. Les organismes et les compagnies dentaires ont aussi puissamment soutenu le Fonds en contribuant respectivement \$30,367 et \$23,655.

En 1969, le FCED a accordé un montant de \$38,960 en bourses d'études attribuées à 23 dentistes et une hygiéniste pour les aider à poursuivre une carrière dans l'enseignement et la recherche dentaire. Le Fonds a, de plus, continué à verser des octrois sans restriction aucune aux 10 facultés dentaires du Canada. Ces dons sans restriction du FCED totalisent \$34,000 depuis 1965.

Parmi les autres réalisations du Fonds en 1969, il faut noter le financement d'un programme d'été pour les étudiants organisé par la faculté de chirurgie dentaire de l'Université Dalhousie, ainsi que la souscription de la première Conférence d'étudiants dentaires canadiens, qui s'est tenue au siège de l'ADC à Toronto.

L'Université Dalhousie pourrait répéter son projet estival

L'Université Dalhousie à Halifax pourrait répéter un projet estival qui, l'année dernière, a fourni une formation pratique en dehors de la classe à des étudiants dentaires.

Le but du projet était de compléter leur formation théorique en hygiène dentaire sociale et publique par une période d'expérience pratique afin de mettre les étudiants en contact avec les besoins en hygiène dentaire et les méthodes employées pour y faire face.

Le programme, financé en grande partie par le Fonds canadien pour l'enseignement dentaire, utilisait la localité de Tatamagouche, en Nouvelle-Ecosse, comme laboratoire d'enseignement et de démonstration. Il comportait trois objectifs: (1) mettre les étudiants en contact avec des groupes sociaux dont les connaissances dentaires et les occasions de se faire soigner étaient restreintes; (2) éveiller chez les étudiants la conscience de leur responsabilité sociale; et (3) mettre à profit des ressources en personnel (les étudiants non-diplômés) qui ne sont actuellement pas utilisées durant les mois d'été.

C'est en encourageant des expériences pratiques comme celle-ci que le Fonds canadien pour l'enseignement dentaire apporte son aide à l'éducation.

Augmentation des bourses pour les étudiants dentaires en Ontario

Le ministère de la Santé de l'Ontario offre maintenant des bourses substantiellement augmentées aux étudiants dentaires. Elles représentent \$3,000 pour chacune des trois dernières années d'études.

Les bourses ont pour but d'inciter les étudiants dentaires ontariens à se consacrer à la pratique générale dans des zones désignées qui manquent de dentistes.

Lorsqu'ils sont diplômés, les bénéficiaires sont tenus d'exercer dans ces zones pendant une année complète pour chacune des années où ils ont reçu une bourse.

Ils peuvent aussi bénéficier d'autres fonds pour établir leur cabinet, soit \$5,000 la première année et ensuite \$3,000 par an pour toute année de qualification jusqu'à un maximum de quatre ans.

Les diplômés peuvent également s'engager par contrat à exercer dans une zone désignée. Le ministère de la Santé leur verse alors un revenu annuel net garanti de \$22,000.

L'économie

A Ottawa: un accord pour limiter la hausse des prix en 1970

L'importante conférence qui a réuni, pendant deux jours à Ottawa, 250 chefs d'entreprises et délégués de professions, s'est achevée le 10 février par un accord général sur un projet de restriction des hausses de prix applicable jusqu'à la fin de l'année.

Le Directeur général W. G. McIntosh et le Président désigné W. J. Spence représentaient l'Association Dentaire Canadienne à cette conférence convoquée par la Commission des prix et revenus.

L'accord engage en principe les compagnies à réduire en nombre et importance les augmentations de prix qu'elles devraient normalement effectuer en 1970. Il spécifie aussi que les relèvements de prix devraient être inférieurs à la hausse des coûts qui contribue à ces relèvements.

Même si l'accord a provoqué un grand soulagement et chez la commission et chez la plupart des délégués, les chefs d'entreprises ont clairement fait savoir que leur appui n'était pas sans réserve.

Ils ont reproché aux syndicats d'avoir d'abord refusé d'appuyer le programme de restriction et de maintenir des exigences salariales excessives et ils ont critiqué les gouvernements, fédéral et provinciaux, de ne pas avoir gelé les dépenses.

Cependant, l'attitude des hommes d'affaires présents à la conférence était qu'il valait mieux mettre l'idée à l'épreuve. L'autre solution, un nouveau resserrement des freins monétaires et fiscaux, risquerait de provoquer une récession au Canada.

Les médecins ne rajusteront pas leurs honoraires

L'Association Médicale Canadienne a demandé à ses 21,000 membres de ne pas relever leurs honoraires professionnels pendant la période où Ottawa combat l'inflation.

La proposition de l'AMC fait partie d'un effort national pour faire accepter des restrictions volontaires sur les prix et les revenus, afin de briser le cycle inflationniste qui affecte l'économie.

Les porte-parole des associations médicales de l'Alberta, du Manitoba et de la Nouvelle-Ecosse ont déclaré qu'à la demande de l'AMC, elles acceptaient de retarder les augmentations d'honoraires dans le but de combattre l'inflation.

Le président de l'Association Médicale de la Saskatchewan a déclaré que l'idée était à l'étude mais a fait remarquer que des omnipraticiens quittaient déjà la province à cause de conditions financières peu favorables.

Il a refusé de dévoiler quelle augmentation l'AMS cherche à obtenir dans les négociations d'honoraires en cours avec la Commission de l'assurance-maladie de la Saskatchewan.

Malgré la proposition de maintenir les taux actuels, le président de l'AMC, le Dr R. M. Matthews a révélé que les relèvements des échelles d'honoraires médicaux ne créaient pas d'inflation car ils étaient basés sur des augmentations passées — et non anticipées — du coût de la vie. Ils ont 15 à 25 mois de retard sur l'inflation. Au cours des dernières années, les augmentations d'honoraires ont suivi l'économie et ne l'ont pas précédée, a-t-il déclaré.

La Société Médicale du Nouveau-Brunswick a quelque peu modifié son barème d'honoraires il y a environ un an et ne prévoit pas d'autre changement.

Les médecins de la Colombie-Britannique négocient actuellement des augmentations applicables le 1er janvier 1971. Quant aux médecins des autres régions — y compris l'Ontario — ils ré-examineront l'année prochaine leurs échelles d'honoraires, qui sont en moyenne relevées tous les deux ou trois ans.

L'Association des Chirurgiens Dentistes du Québec réclame le bénéfice des soins dentaires pour les assistés sociaux

Un porte-parole de l'Association des Chirurgiens Dentistes du Québec a renouvelé la demande de faire bénéficier les assistés sociaux des soins dentaires. L'ACDQ voudrait que ces soins soient inclus dans le régime d'assurance-maladie du Québec qui débute le 1er juillet.

Dans un communiqué de presse daté du 5 février, l'association déclarait que les assistés sociaux devraient avoir droit à tous les soins dentaires et que les services couverts devraient être garantis indépendamment de la personne qui les rend. Jusqu'à maintenant, seuls les médecins sont rémunérés par le gouvernement pour les soins buccaux qu'ils rendent.

L'assurance dentaire coûterait \$130 millions de plus au régime ontarien

Le ministre de la Santé de l'Ontario, M. Thomas Wells, estime que le coût de l'assurance-maladie provinciale augmenterait de plus de 50 p.c. si le régime remboursait les médicaments et les frais dentaires.

Il a déclaré que l'addition des frais dentaires coûterait \$130 millions par an.

Il n'a cependant pas dit quelle était, dans ce chiffre, la proportion des honoraires aux dentistes et des frais administratifs. Le remboursement des médicaments s'élèverait à \$128 millions.

M. Wells a expliqué que l'assurance en vigueur coûterait \$508 millions par an, dont \$28 millions de frais administratifs. Selon le ministre, \$309 millions proviennent des primes personnelles "au taux actuel", \$168 millions d'octrois fédéraux et la province paie \$31 millions pour compléter le total.

Les régions éloignées de l'Ontario n'attirent pas les dentistes

Selon M. Thomas Wells, ministre provincial de la Santé, aucun dentiste n'a encore accepté le contrat de \$22,000 par an que la province offre pour fournir des services dentaires dans les localités éloignées de l'Ontario.

Dans un autre projet qui a pour but de satisfaire les besoins dentaires des localités isolées, 23 étudiants dentaires ont reçu des bourses de \$3,000 par an. Ils se sont engagés à exercer dans une zone désignée un an pour chacune des années où ils ont reçu une bourse.

Les dentistes tchèques qui suivent actuellement un cours de recyclage à l'Université Western Ontario financé par les gouvernements provincial et fédéral

devront exercer dans une région de l'Ontario privée de dentiste après avoir terminé leur cours à Western.

Un radiologue d'hôpital autorisé à déduire certains frais professionnels

Une récente décision juridique pourrait indiquer que médecins ou dentistes exerçant sous contrat avec un hôpital seraient autorisés à l'avenir à déduire certains frais encourus dans le gain de leur revenu. La question se pose après la décision de la Cour de l'Echiquier du Canada dans une cause, Alexander vs le ministre du Revenu national, entendue le 22 décembre 1969.

L'appelant, un radiologue qui travaille au Trenton Memorial Hospital en Ontario, avait pour tâche d'administrer son département et de fournir des services professionnels pour lesquels il était payé par l'hôpital moins une déduction de 5 p.c. pour les comptes non perçus. La question en litige était le droit de l'appelant de déduire ses frais d'automobile pour assister aux séminaires de radiologie de l'Université Queens à Kingston.

La validité de sa demande dépendait du fait que le contrat soit un accord pour services (auquel cas les paiements de l'hôpital au médecin seraient classés comme honoraires et il aurait droit aux déductions générales de l'article 12 [1a] de la loi de l'impôt sur le revenu) ou un accord de services (auquel cas, en qualité d'employé, il serait tenu aux limitations de l'article 5 [1]).

En recevant l'appel, la cour a décidé que l'accord avait le caractère d'un "contrat de services" et qu'en conséquence le docteur n'était pas l'employé de l'hôpital.

La cour trouva également que l'appelant assistait aux séminaires pour se tenir au courant des changements rapides dans le domaine de la radiologie et décida que ses frais de déplacement étaient déductibles, ayant été encourus en vue de tirer un revenu de sa profession.

La recherche

Un mal qui répand la terreur

Au Canada, le cancer de la cavité buccale fait rage! A qui s'attaque-t-il? Particulièrement à la gent masculine "francophone" de plus de 45 ans. Le Québec représente également un taux de mortalité très élevé et une incidence plus marquée pour le cancer de la lèvre et de la langue en comparaison aux autres provinces.

Ce sont ces statistiques alarmantes que le Dr D. L. Anderson, professeur

à la Faculté de chirurgie dentaire à l'Université de Toronto, révélait alors qu'il prononçait une conférence intitulée: "Oral Cancer in Quebec", sur l'invitation de la Faculté dentaire de l'Université de Montréal.

En effet, ces statistiques émanent d'une sérieuse enquête qu'il a faite à travers tout le Canada en collaboration avec l'Institut National du Cancer du Canada.

Même si les causes ne sont pas encore déterminées, le Dr Anderson ajoute que ces données pourraient bien se rattacher soit à l'hérédité, au sexe, à l'âge, à l'urbanisation ou la pollution de l'air. D'ailleurs, le taux de mortalité semble plus élevé dans les grandes villes.

Il est très difficile de diagnostiquer un cancer buccal. C'est pourquoi les dentistes doivent être sensibilisés encore plus au dépistage de celui-ci. Le Dr Anderson favorise la méthode du "frottis" largement appliquée aux Etats-Unis.

Le laser peut souder la porcelaine à l'or

Un physicien de l'Université Simon Fraser et un technicien de Vancouver s'efforcent de mettre au point une méthode pour souder la porcelaine à l'or à l'aide d'un rayon laser. Cette méthode pourrait faire économiser une bonne partie du coût et du temps que l'on consacre actuellement à fabriquer les ponts et les couronnes.

Comme la porcelaine ne se dilate pas au même rythme que le métal, les techniciens dentaires doivent employer un alliage d'or pour sceller la porcelaine au métal, une opération coûteuse qui nécessite plusieurs minutes dans un four à 2000°C.

J.C. Irwin, du Département de physique de l'Université Simon Fraser, partant d'une idée de Horst Wismann de la firme Platamic Engineering, a mis au point un laser à l'anhydride carbonique qui recuit la porcelaine à une base métallique en quelques secondes.

Le laser à l'anhydride de carbone chauffe la porcelaine si rapidement que la chaleur n'a pas le temps de passer dans le métal et l'alliage d'or n'est alors plus nécessaire. Il s'ensuit que l'on peut employer le laser pour sceller la porcelaine à des métaux peu coûteux qui auraient été plaqués.

La phényléphrine améliore l'hémostase après les interventions buccales

Deux chercheurs de Seattle ont démontré d'une part que l'emploi de la phényléphrine (Néo-Synéphrine), un vasoconstricteur synthétique, est une meilleure mesure préventive que l'em-

ploi de l'adrénaline et que, d'autre part, le remplacement intraveineux des liquides au cours du premier jour après l'opération diminue le nombre de complications.

L'extraction massive des dents est ordinairement accomplie sous anesthésie générale et pourtant le patient exige souvent d'être valide et de retour au travail presque aussitôt après. Cependant, des études effectuées par R. Meyer et G. D. Allen à l'Université de Washington à Seattle, démontrent que la perte de sang dans ces cas-là peut être supérieure à celle de beaucoup d'autres opérations importantes. Elles révèlent aussi que la chirurgie buccale peut indisposer le patient et l'empêcher de boire suffisamment pour recréer l'équilibre chimique et accélérer le rétablissement. Il est donc important de réduire la perte de sang et de remplacer rapidement les liquides.

On a mesuré la perte de sang due aux extractions massives et on a comparé trois produits couramment employés, au moyen d'injections locales, pour diminuer la perte de sang des petits vaisseaux capillaires. Les pertes moyennes durant l'opération n'ont révélé aucune différence statistiquement importante. Cependant, les pertes de sang enregistrées après l'opération révélaient d'importantes différences: en moyenne 224 ml avec l'adrénaline, 131 ml avec la solution saline et 99 ml avec la phényléphrine.

Les docteurs Meyer et Allen ont trouvé que la phényléphrine agit plus longtemps ce qui permet une meilleure coagulation. Elle n'a pas non plus les inconvénients de l'adrénaline qui contracte d'abord les vaisseaux sanguins mais les dilate ensuite et qui peut provoquer des battements de cœur irréguliers avec certains anesthésiques.

Les chercheurs recommandent l'usage de la phényléphrine au cours des extractions et le remplacement des liquides par voie intraveineuse après l'opération afin de contrôler plus efficacement le volume sanguin, de hâter le rétablissement et de diminuer le nombre de complications.

Mesure de la désintégration des ciments dentaires dans la bouche

Des chercheurs de l'Université de l'Indiana ont conçu un appareil intra-buccal qui permet de comparer la désintégration de trois ciments dentaires.

L'appareil est une prothèse partielle coulée en or avec deux grandes rainures ou fenêtres dans lesquelles on place les ciments à étudier. Chacun des ciments reste dans la bouche au moins 30 jours, et les appareils sont pesés avant, pendant et après le test

pour établir la quantité et le taux de perte. Les modifications de la surface des ciments sont également mesurées, à l'aide d'un planimètre.

Les chercheurs ont mis à l'épreuve les ciments au phosphate de zinc, au silicate et à l'eugénate. Les patients ont démontré des variations individuelles considérables dans le taux et la quantité de perte de chaque ciment. Les variations individuelles étaient les plus fortes pour les ciments à l'eugénate et beaucoup moindres pour les ciments au silicate.

Toutefois, les taux de désintégration dans la bouche étaient sans relation directe avec les essais préalables accomplis en laboratoire. L'eugénate est beaucoup moins soluble que les deux autres ciments en laboratoire et pourtant il se désintègre bien plus vite dans la bouche. La perte est en grande partie due à l'abrasion. L'eugénate s'use 35 fois plus vite au brossage alors que le phosphate de zinc n'est abrasé que cinq fois plus vite que le silicate.

Les chercheurs concluent qu'il faut prendre les mesures de la solubilité et de l'abrasion des ciments dans la bouche-même pour prévoir leur résistance à l'usure et que ces résultats sont plus valables que les essais en laboratoire.

La fluoruration

Baisse record des caries à Toronto depuis la fluoruration

Les enfants de Toronto qui consomment de l'eau fluorée depuis leur naissance ont moins de caries que tous les groupes qui les ont précédés au jardin d'enfants, a déclaré le 2 février le directeur des services dentaires de la ville.

Le Dr J. McGaughey a signalé dans une interview que 59 p.c., soit six enfants sur 10 du groupe concerné ne présentaient pas de carie nécessitant de restauration, contre 38 p.c. ou quatre sur 10 dans l'enquête de 1958.

Lorsque le service d'eau a été fluoré en septembre 1963, a déclaré le Dr McGaughey, le taux des élèves du jardin d'enfants qui n'avaient jamais présenté de carie était de 26 sur 100. L'année dernière il était de 42 sur 100.

Ceux qui en 1968 étaient atteints de caries en avaient moins: 1.3 caries contre 2.54 en 1958.

Le Dr. McGaughey a indiqué qu'en 1968, le pourcentage d'enfants âgés de cinq ans qui avaient perdu leurs dents primaires par carie avait été réduit de moitié, passant de 25 p.c. en 1963 à 12.5 p.c.

Il a attribué l'essentiel de l'amélioration à la fluoruration. Les autres enfants ont accusé une certaine amélioration au cours des dernières années, mais pas aussi importante que la chute de la carie chez les enfants nés depuis 1963.

Bien que ces chiffres soient révélateurs, ce ne sera pas avant 1975 ou 1976 que tous les bienfaits de la fluoruration pourront être évalués dans leur ensemble, lorsque les enfants nés après 1963 auront leurs molaires de 12 ans.

Trois villes frontalières seront fluorées

Trois localités situées dans le Maine et le Nouveau-Brunswick, de chaque côté de la frontière internationale, ont accepté de fluorer leur service d'eau commun. Il s'agit de St. Stephen, au Nouveau-Brunswick, qui vend de l'eau à la ville de Calais, dans le Maine, laquelle revend l'eau à Milltown, au Nouveau-Brunswick.

Calais a toujours fermement appuyé la fluoruration et le département de la Santé du Maine a offert de payer les frais de l'équipement requis. Les frais d'installation seront couverts par le ministère de la Santé du Nouveau-Brunswick. Les frais d'entretien seront assumés par la ville de St. Stephen.

Distinctions honorifiques

Les orthodontistes montréalais **Gerald Franklin** et **Paul Geoffrion** viennent d'être nommés membres honoraires de l'Association des Orthodontistes de la Province de Québec. L'AOPQ célèbre cette année son vingtième anniversaire.



Paul Geoffrion, orthodontiste montréalais, tenant son certificat de membre honoraire de l'Association des Orthodontistes de la Province de Québec que Roland Nadeau, président de l'AOPQ lui a remis le 19 janvier.

The oral smear: a life may depend on it

Cytological smears are helping dentists to discover oral cancer at an earlier stage, but too few practitioners are using this potentially life-saving measure.

Ontario dentists discovered 69 oral malignancies through cytodetection in the past five and a half years, according to D. L. Anderson and H. A. Hunter of the University of Toronto's Faculty of Dentistry. Thirty-nine of the smears came from clinically suspicious lesions. These had the classical appearance of cancer; most were red, firm and ulcerated. But the other 30 positive smears came from sites that did not look like cancer; they resembled the colour, contour and consistency of benign abnormalities.¹

Benign mucosal changes are very common in the mouth. More than 6,800 such changes were smeared by the two dental cytologists over the past 66 months.

Thus, one in a hundred smears contained suspicious cells which led to biopsy confirmation of cancer. Doctors Anderson and Hunter consider this result "well worth the effort necessary to smear 100 abnormalities."

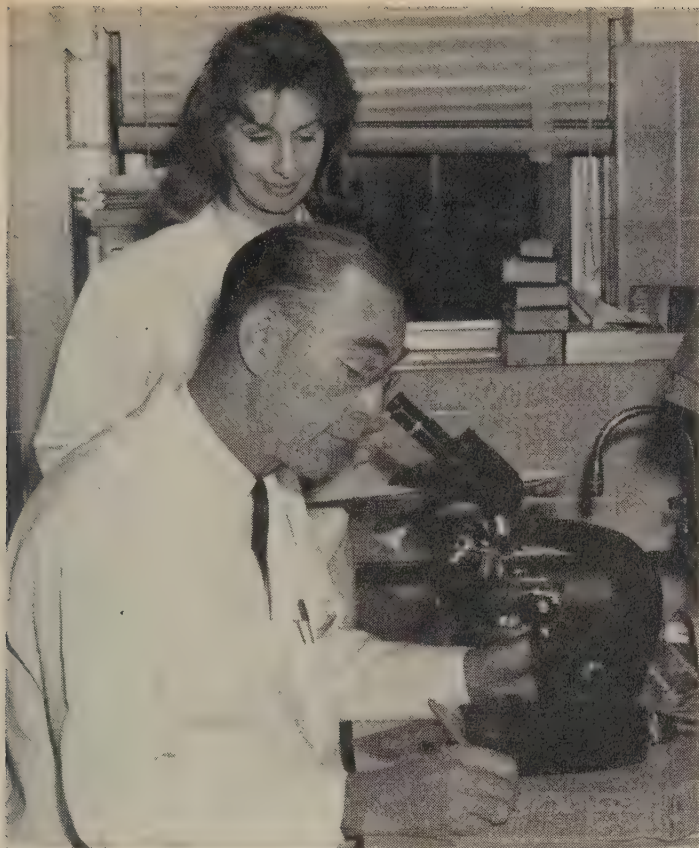
They point out that the smear technique is easy, simple, rapid, painless and well accepted by the public. Thanks to a grant from the Ontario Cancer Treatment and Research Foundation, dentists in that province can obtain cytodetection kits without cost. But despite the availability of free kits, smear processing and cytological classification, six out of 10 Ontario dentists did not use the technique. "Apparently," says Dr. Anderson, "they still do not realize that very early cancers cannot be clinically differentiated from other innocent lesions. Malignant changes can only be shown microscopically at this critical stage when the chances of survival are best."



Cytotechnician stains smears submitted by dentists.



Stained slides are examined under a microscope and cell classifications are recorded.



Cytologist, Doctor H. A. Hunter, completes a report on each submitted smear.

Smears disclose small cancers

Doctor Anderson found that the cancers discovered by cytodetection were much smaller than those identified by clinical diagnosis. Sixty-four per cent of these apparently innocuous lesions were smaller than 2 cm, whereas 71 per cent of clinically suspicious lesions were larger. The detection of intra-oral cancers which are smaller than 2 cm is highly significant for the patient because survival from such lesions is twice that of cancer larger than 2 cm.²

Doctors Anderson and Hunter stress that cytodetection neither replaces nor competes with biopsy. The two techniques complement each other. Oral smears, they add, are an excellent adjunct to biopsy for the identification of cancer.³ Though routine smearing of normal mucosa is impractical, oral smears can be used to screen common innocent-appearing mucosal changes. Smears are particularly useful for diffuse and multiple mucosal alterations which are difficult to check by biopsy.

Doctor Hunter points out that biopsy is always necessary whenever a smear yields cells indicative of malignancy. Diagnosis depends on the biopsy, but clinical judgement and follow-up examinations are equally necessary because smears and biopsies can yield false negative results.

The two scientists reiterate that routine thorough clinical examination is a cardinal requirement of any diagnosis. They describe smears and biopsies as "important supportive measures for establishing the diagnosis." Noting a steady rise in the number of biopsies submitted by Ontario dentists over the past

nine years, they also express satisfaction that smears have not replaced biopsies in that province.

Any lesion which looks like cancer should be biopsied immediately, according to Doctor Hunter. This is because cytology is not always positive in cases of confirmed cancer.³

Smears are least reliable for advanced cancer because the degenerated cells and detritus present in advanced ulcerated lesions have little or no diagnostic value. But a smear should be taken whenever a biopsy is refused or contra-indicated. Such a smear is more reliable than clinical assessment alone.

Advocate smears for intra-oral sites

Cytodetection, the two scientists point out, is much more effective at intra-oral sites than for lip cancers. This is because of the difficulty in obtaining sufficient representation cells from the lip. Hyperkeratinization or debris may also pose an occasional problem at intra-oral sites. But Doctor Anderson has been able to classify 94 per cent of intra-oral smears in Ontario and the number of unsatisfactory specimens has steadily declined.

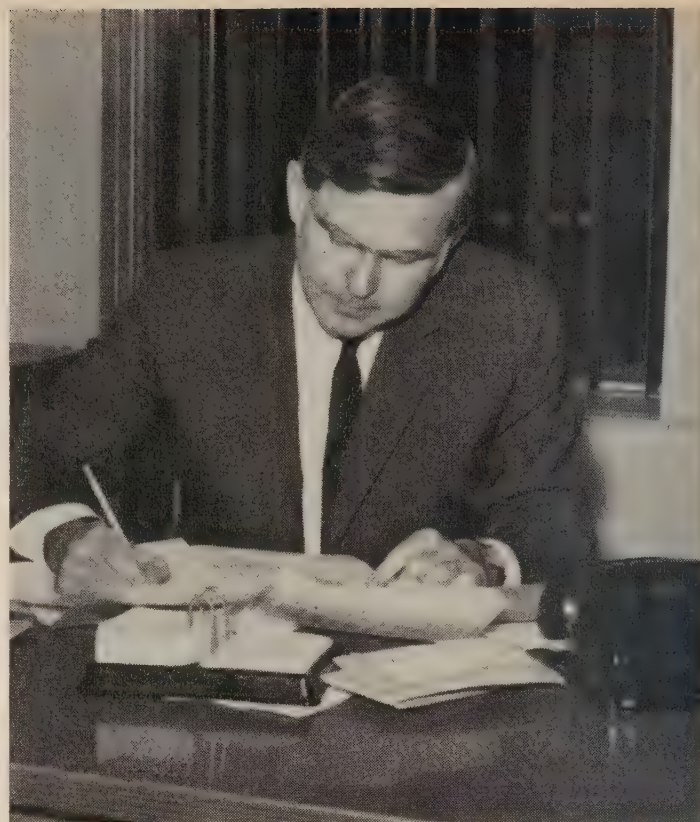
Doctors Anderson and Hunter believe that cytodetection may turn out to be most useful in provinces which have large urban populations, for these provinces have a lower incidence of lip cancer and a higher incidence of intra-oral cancer.⁴



Cytotechnician punches computer cards to transfer information from the cytology forms for computer analysis by Doctor D. L. Anderson.



Operator at the computer console. Doctor Anderson holds a computer print-out.



Doctor Anderson studies results of the computer analysis.

They urge their fellow-dentists to make greater use of cytological smears. Such smears can result in the identification of oral cancer when it is clinically innocuous and when the chances of survival are much more favourable.

Doctor Anderson is assistant professor of periodontology and Doctor Hunter is professor of oral pathology at the Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 101.

- 1 Anderson, D. L. and Hunter, H. A. A survey in Ontario of the prevalence and significance of oral lesions as established by clinical and cytological smear examination. Annual Report of the Ontario Cancer Treatment and Research Foundation 1968, p 190. In press.
- 2 Anderson, D. L. Significance of surface size of intra-oral carcinoma. J Canad Dent Ass 32:212, 1966.
- 3 Hayes, R. L., Berg, G. W. and Ross, W. L. Oral cytology: its value and its limitations. J Amer Dent Ass 79: 649, 1969.
- 4 Anderson, D. L. and Lewis, D. W. Male oral cancer: correlation of incidence with mortality and population characteristics. J Canad Dent Ass 36:26, 1970.

Erratum — A news item in the February Journal, "Increased Bursaries for Ontario Dental Students," incorrectly reported that the Ontario Department of Health offers undergraduate dental students \$400 per month

during the three summer months for serving a preceptorship with a general practitioner in Ontario. Such summer preceptorships are only available to medical students.

Pitfalls in early diagnosis of oral epidermoid carcinoma

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Oral lesions that appear to regress spontaneously or yield negative cytological or biopsy results do not absolve the dentist from maintaining clinical vigilance. The need for clinical judgement is clearly illustrated in the following article which shows that undue reliance on common diagnostic criteria or laboratory findings may lull the practitioner and the patient into a fatal sense of security.

Les lésions buccales qui semblent régresser spontanément ou donnent des résultats négatifs à la biopsie et à l'examen cytologique ne dispensent pas le dentiste de demeurer vigilant. La nécessité d'un jugement clinique subtil est mise en relief dans cet article qui montre qu'une confiance excessive dans les critères de diagnostic ou les résultats de laboratoire peut susciter chez le praticien et le patient un sentiment de sécurité parfois fatal.

If early diagnosis of oral carcinomas is to become a reality, textbook descriptions of such lesions can no longer be accepted as a diagnostic standard. Ulcerated, indurated lesions of long standing are well advanced lesions and their treatment is rarely successful and often mutilating.¹ Enlargement and fixation of local lymph nodes is a late sign and therefore of limited value in making a worthwhile diagnosis since the patient has only a 6 per cent chance of survival at that stage.²

The purpose of this paper is to expose some of the diagnostic pitfalls the dentist and pathologist must avoid. We also present two case reports illustrating some of these points.

What does oral carcinoma look like?

Dentists must realize that the clinical manifestations of early epidermoid carcinoma are highly variable. The development of keen judgement, based on knowledge and experience, is therefore imperative.³ Though initial cytological or biopsy reports may indicate otherwise, the practitioner must have sufficient faith in his judgement to pursue further diagnostic measures.⁴

Most intra-oral carcinomas are associated at some stage with white localized lesions. The loss of colour denotes interruption or diminution of the vascular supply or surface keratin formation which increases the distance between the capillary bed and the surface.⁵ Most such changes relate directly to local factors and regression occurs when local causative factors are identified and controlled. Lesions that are related to local factors may occasionally be subject to additional synergistic relationships with other occult tissue and systemic factors.^{6, 7} Thus local irritation, such as smoking, can precipitate the formation of a lesion, but removal of the irritant does not always result in healing. Despite their often innocuous clinical appearance, such persistent lesions must be eyed with suspicion.

Unexplainable intra-oral surface lesions may occur in "cancer prone" patients^{1, 7, 8} or in "cancer prone" areas¹ (75-80 per cent of mouth cancers occur in the horseshoe-shaped floor of the mouth). Heavy smokers or smoker-drinkers soon become accustomed to have occasional sores in the mouth and may therefore be oblivious to minor symptoms.¹ Every effort must be made to rule out neoplasms, regardless of how harmless the lesions may appear. Very careful examination of soft tissues in such patients is therefore imperative.

Guernsey⁹ points out that diffuse, milk-white, focal keratotic lesions generally have less malignant potential than relatively innocuous solitary lesions in the floor of the mouth. Induration or ulceration are not necessary criteria for malignancy, he says.

Waldron and Shafer¹⁰ warn that verrucous or fissured white lesions have a high potential for malignancy. The presence of small, granular, grey or pinkish-grey areas may represent carcinoma in situ. Speckled leucoplakias should also arouse suspicion. These lesions often have a superimposed monilial infection and it has been suggested that the resultant inflammatory reaction may contribute to malignant transformation of these lesions.¹¹⁻¹³

Some white lesions which respond to treatment may give the clinician a false sense of assurance. Such lesions are thought to represent irreversible change and may undergo rapid malignant transformation if suitably stimulated.¹⁴⁻¹⁶ This view is supported by animal studies which show that chemically induced carcinomas go through a stage of clinical healing just prior to appearance of the neoplasm.¹⁷

Shortcomings of diagnostic techniques

Preliminary cytological screening of mucosal surface lesions has obvious advantages provided one recognizes the limitations of the technique. Shklar et al,¹⁸ in a study of 2,052 oral lesions, found a better than 85 per cent correlation between biopsy and cytology. However, the percentage of false negative cytology results was much higher in lesions characterized by hyperkeratosis. This prompted these authors to conclude that only biopsy is suitable in the diagnosis of the precancerous form of leucoplakia.

A lesion is as malignant as its most malignant cell.¹⁹ With incisional biopsies, therefore, the onus is on the surgeon to submit that part of the lesion which is most abnormal. Moore¹ suggests that there may be an interval of 2-5 years between primary histological change and actual epithelial invasion. Initially, such changes occur in one or several small areas.

The problem of choosing an appropriate site for biopsy is multiplied by the frequent superimposition of inflammation associated with oral mucosal lesions. Unless he is thoroughly familiar with soft tissue lesions and biopsy, a general practitioner should therefore consult an oral surgeon in evaluating questionable cases before biopsy is attempted. The importance of taking the biopsy from the right area, or from several areas in large lesions, cannot be over-emphasized.

The difficulties inherent in clinical evaluation have prompted a search for in vivo methods which might aid in the delineation of highly suspicious areas. Niebel and Chomet²⁰ have investigated the effectiveness of toluidine blue for this purpose. Their preliminary results were most encouraging but they have not yet made a final report.

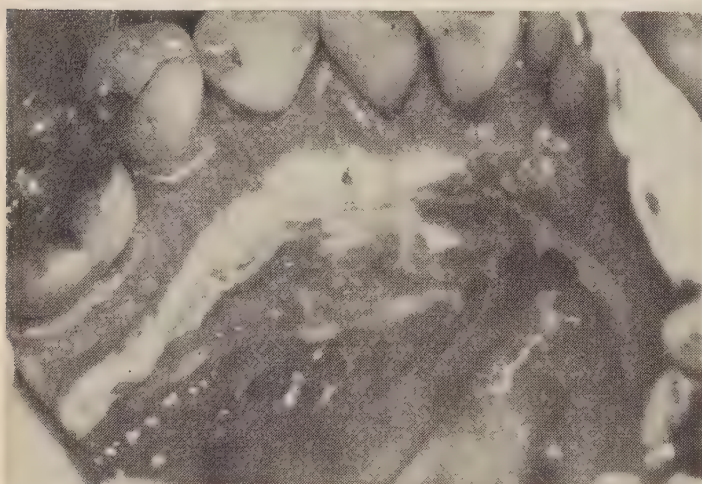


Fig 1 The initial lesion in Case 1 consisted of a dense white plaque with a diffuse anterior extension onto the floor of the mouth. The extended portion was not included in the excisional biopsy.

Shortcomings of histology

The practice in our diagnostic laboratory has been to examine submitted biopsy material by naked eye or with the aid of a hand lens, embed a "representative" section of tissue if the lesion is large, cut and stain 8-10 sections, and write our report and diagnosis on the basis of features seen in these tissue sections. The shortcomings of this practice are similar to those of incisional biopsy. Specimens are often mutilated by surgical technique. Late or improper fixation may alter the tissue characteristics. Blood clot and debris frequently obscure the detail seen in a clinical lesion.

A further hazard arises from the material encompassed by the specimen. The most progressive part of the lesion may only be a small segment of the submitted tissue; serial sections are therefore essential for accurate microscopic appraisal of biopsy material in which early neoplastic change is suspected. Biopsy is reliable only when the most advanced part of the lesion is included in the specimen and sufficient sections of that area have been examined.

The following two cases illustrate these diagnostic problems.

Case report 1

In March 1966 we saw a 67 year old man with a large, raised, rough white lesion on the mandibular left lingual gingival mucosa (Fig 1). There was some ulceration on its inferior border, but the lesion was asymptomatic. The patient had been a heavy pipe smoker for 42 years.

The cytologist reported the presence of atypical cells but was not then suspicious of carcinoma. We excised the anterior half of the lesion and submitted it for microscopic examination. The pathologist reported some pleomorphism of basal cells and termed the lesion as benign leucoplakia with some dyskeratosis. The remainder of the lesion was removed two months later and again diagnosed as benign leucoplakia. The patient was urged to stop smoking and heeded the advice.

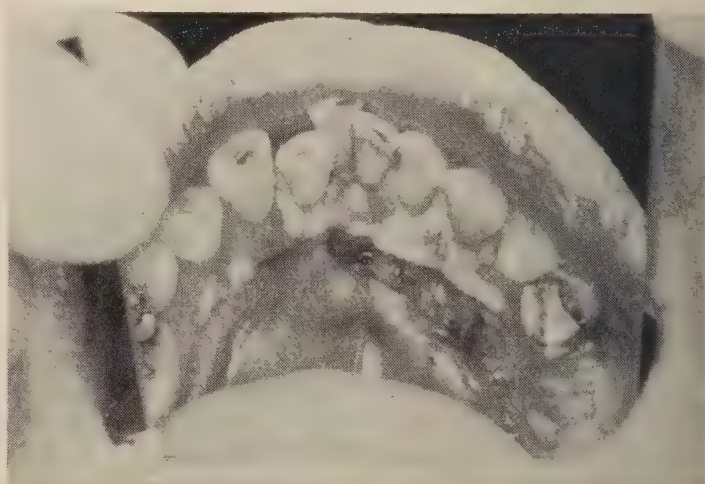


Fig 2 The second recurrent lesion in Case 1 appeared as multinodular white plaques which predominated in the anterior lingual mucosa. Carcinomatous change also occurred at the distal gingival margin of mandibular right bicuspid.

In May 1967 the lesion had recurred as a smaller white area. It was excised and submitted for microscopic investigation. The pathologist again diagnosed leucoplakia with moderate epithelial dysplasia.

The patient returned in January 1969. By this time he had multiple focal areas of raised rough white nodules extending from the mandibular left second bicuspid to the right second bicuspid (Fig 2). A similar lesion was noticed on the labial gingiva between the mandibular left incisors. The clinical impression at this time favoured carcinoma. Two areas were biopsied and submitted for microscopic examination. The pathologist reported invasive epidermoid carcinoma in both biopsy specimens and the patient was referred to the cancer clinic for further treatment.

The presence of well advanced invasive epidermoid carcinoma in the second recurrent lesion caused us to re-evaluate our interpretation of the earlier biopsy sections. We wanted to ascertain whether these tissue sections were truly representative of the worst part of the totally removed initial and first recurrent lesions. The remainder of the biopsy material was therefore divided into 2-3 mm slices, embedded in paraffin, and 50 sections were cut from each slice.

In the initial very large lesion all tissue sections from every slice except one showed simple hyperkeratosis—features that correspond to leucoplakia with some dyskeratosis, as reported by the pathologist. Tissue sections from one slice, representing a very small part of the total lesion, showed breakdown of basement membrane, invasion of epithelial cells with central breakdown of some of the invaded nests and formation of cyst-like structures (Fig 3).

The first recurrent lesion generally showed hyperkeratosis with areas of mild dysplasia. However, one small area again had all of the features characteristic of carcinoma in situ. Several nests of epithelial cells in the connective tissue appeared to be detached from the surface epithelium, but we could not determine whether this represented early invasion.

In this case, therefore, the clinician would have extremely little chance of biopsying the right area should he decide to do an incisional biopsy. Even if he had biopsied the right area, our practice of cutting and examining 8-10 slides could easily miss the most re-

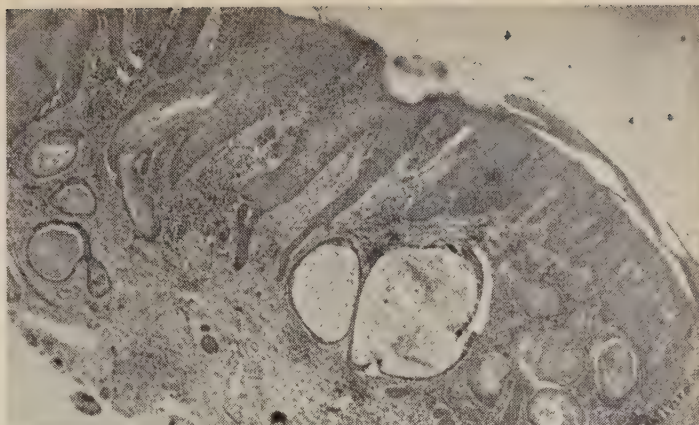


Fig 3 Cyst-like structures present in the initial biopsy material from Case 1 were initially thought to represent duct metaplasia. In the second recurrent lesion, shown here, these structures were linked directly to malignant change. H & E, x 250 original magnification.

vealing part of the lesion. This underlines the necessity for extreme care and vigilance on the part of the surgeon and the pathologist to ensure early and accurate diagnoses.

Case report 2

In April 1967 a 62 year old woman presented with a slightly raised white patch extending from the plica sublingualis onto the alveolar mucosa (Fig 4). The lesion had been present for about four months, was asymptomatic, and appeared to be associated with irritation from the lingual bar of a partial denture.

The patient was a heavy smoker (two packs of cigarettes daily) and was taking diphenylhydantoin sodium (Dilantin Sodium) to control some type of seizure. Her medical history was otherwise unremarkable.

We checked the lingual bar but found that it did not impinge on the lesion. A cytological smear showed anucleate squames and was classified as "negative"

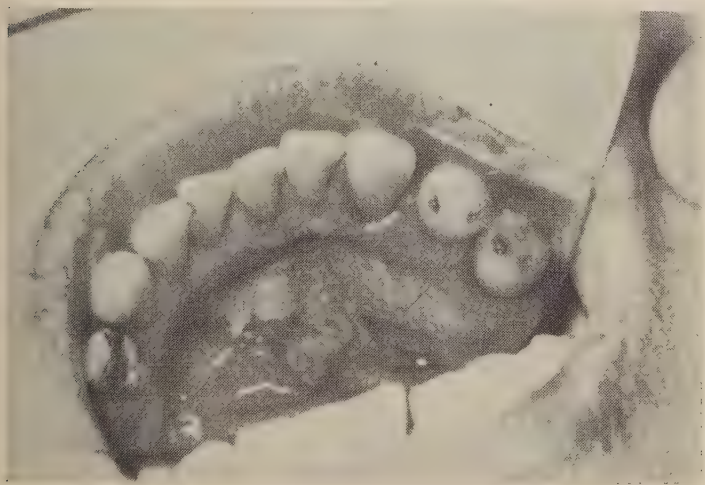


Fig 4 The primary lesion in Case 2 involved the lingual gingiva and extended onto the floor of the mouth. This lesion decreased markedly after treatment.

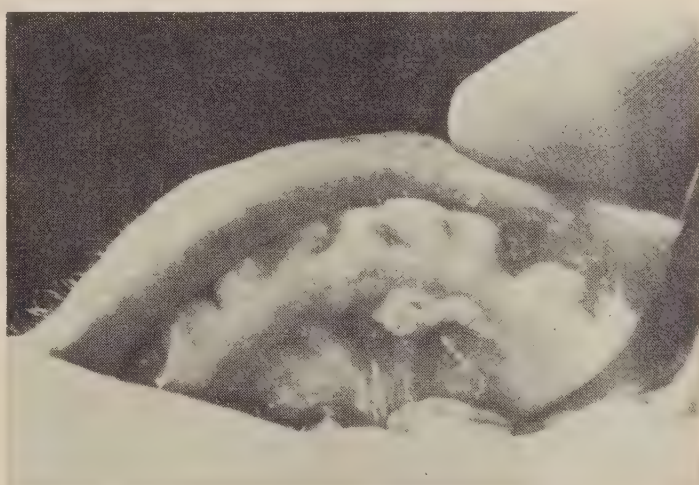


Fig 5 The carcinoma in Case 2 was a well-defined asymptomatic lesion with no evidence of "deep" involvement, ulceration or lymphadenopathy. Without a cytological report, which disclosed suspicious cell features, surgical removal would not have been considered as the lesion appeared to be regressing.

for malignancy. Nevertheless, we advised the patient to stop smoking.

Six months later the lesion was less pronounced with ill-defined borders. The patient was still smoking but she attempted to hold her cigarette in a different position. A cytological smear again showed only anucleate squames but was classified as "atypical." The lesion was diagnosed as benign hyperkeratosis.

We did not see the patient again until March 1969. In the interim she had been in California where she had changed to an American brand cigarette. She had also used a neutral soap (Neutrogena) four times daily to clean the affected area. Her remaining mandibular teeth had been extracted three weeks earlier because of periodontal involvement, and she had been given triamcinolone acetonide ointment (Kenalog) to apply to the white lesion.

The lesion now appeared much smaller. It was confined to the lingual alveolar mucosa and showed no apparent extension to the floor of the mouth (Fig 5). A cytological smear produced anucleate squames and abnormal nuclei suggestive of dysplasia. The lesion was therefore classified as "suspicious" for carcinomatous change. The diagnosis of epidermoid carcinoma was confirmed by excisional biopsy.

This case illustrates that apparent response to treatment does not preclude malignant transformation of persisting white lesions of the oral mucosa. Experimental and clinical-histological evidence suggests that irritations associated with treatment procedures, such as washing, ointments or surgical trauma, may sometimes stimulate malignant transformation in tissues which have undergone irreversible change.¹⁴⁻¹⁷

The March 1969 lesion showed none of the accepted clinical features of epidermoid carcinoma. Yet, the cytological report alerted the surgeon to its real nature, allowing early surgical removal of tissue well beyond the area of invasion.

Conclusions

The foregoing discussion calls into question certain diagnostic criteria which are commonly applied beyond their allowable limits. Failure to appreciate the subtle nature of early malignant change and the limitations of diagnostic methods can lead to unjustifiable complacency in dealing with oral surface lesions.

Pitfalls in the early diagnosis of epidermoid carcinoma will persist as long as our understanding of malignancy remains incomplete. Each member of the diagnostic team must therefore minimize all possible errors in evaluating oral lesions with a malignant potential. This demands keen judgement based on knowledge and experience,³ faith in one's ability to

assess fairly,⁴ and a high degree of suspicion leading to thorough evaluation, precise treatment planning and careful follow-up.

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Fluoridated Flat Earth — Commenting on those who oppose fluoridation in spite of research and experience on its safety and effectiveness, Lady Birk of the British Health Education Council said recently: "I see the anti-

fluoride campaigners as the flat-earththers of the space age. I'm all in favour of having eccentrics around, but when it affects the health of children, it's time to combat it."

Pre-curved files and incremental instrumentation for root canal enlargement

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Leonard Evanson, DDS, MS, Chicago

The authors describe two simple methods for avoiding ledge formation or perforation of root canal walls during endodontic treatment. One technique consists of pre-curving endodontic files to conform to the configuration of the canal. When enlarging dilacerated canals, only the apical portion of the file is bent. For all other cases the entire shaft of the instrument is curved more gently. The second technique consists of establishing new intermediate increments between instruments of consecutive size. This is accomplished by using each file as required, then reducing its tip by 0.02 mm, then using the modified instrument again before resorting to one of a larger size.

Les auteurs décrivent deux méthodes relativement simples pour éviter la formation d'un épaulement ou la perforation des parois du canal radiculaire pendant le traitement endodontique. Une de ces méthodes consiste à courber à l'avance les limes endodontiques pour les conformer à la configuration du canal. Pour agrandir les canaux déformés on ne courbe que la partie apicale de la lime. Dans tous les autres cas, la tige entière est légèrement courbée. La seconde technique consiste à établir des augmentations intermédiaires entre les instruments de taille consécutive. Cela se fait en utilisant chaque lime normalement puis en réduisant la grosseur de son extrémité de 0.02 mm pour s'en servir encore avant de passer à la taille supérieure.

Thanks to the mounting statistical evidence of endodontic success, dentists are placing greater reliance on treated pulpless teeth.^{1, 2} The efficacy of endodontic therapy combined with other forms of dental treatment is well documented as are specific techniques for utilizing pulpless teeth.³⁻⁷

Teeth with narrow or tortuous root canals represent a growing segment of the cases that are now routinely referred for endodontic therapy. The standardization of instruments has been most beneficial for such treatment.⁸ Nevertheless, files and reamers must often be specially adapted in order to bring treatment to a successful termination. Two such techniques are described in this paper.

Pre-curved files

A straight instrument should never be inserted into a curved canal; otherwise its tip may penetrate the comparatively soft dentinal wall and cause the formation of a ledge.⁹⁻¹¹ This hazard is eliminated by pre-curving an instrument which has the approximate configuration of the canal as visualized in the pre-operative radiograph or as determined by tactile sensation.

Though many canals seem relatively straight in a radiograph, they may be quite tortuous when the curve is perpendicular to the film. This is especially true of the palatal roots of maxillary molars which frequently have buccal curves, and maxillary lateral incisors which often have palatal curves (Fig 1).¹²

Because of eccentric deposition of dentine, few canals are naturally funnel-shaped. If, during enlargement, straight instruments are rotated against an obstruction or an irregularity in the canal, they are apt to cause ledge formation. This possibility is averted by using a curved instrument which will slide off and continue to penetrate the lumen of the canal.

We routinely use two kinds of pre-curving. (1) Only the apical portion of the instrument is given a sharp curve when the radiograph indicates a root dilaceration, as frequently occurs in maxillary molars, or when an obstruction is encountered. (2) For all other cases we use a gradual curve throughout the length of the instrument's cutting edge (Fig 2). The curves are

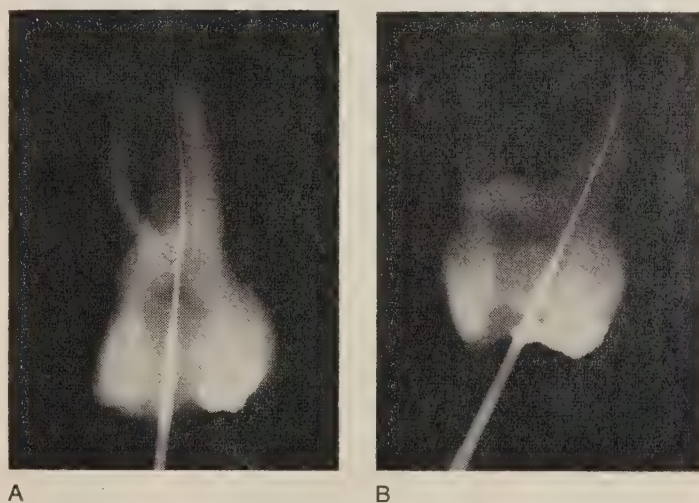


Fig 1 Radiographs of an extracted typical maxillary first molar with a file in the palatal root canal. The palatal canal appears relatively straight in a typical routine buccal view (A). A mesial view (B) illustrates the canal's buccal curve.

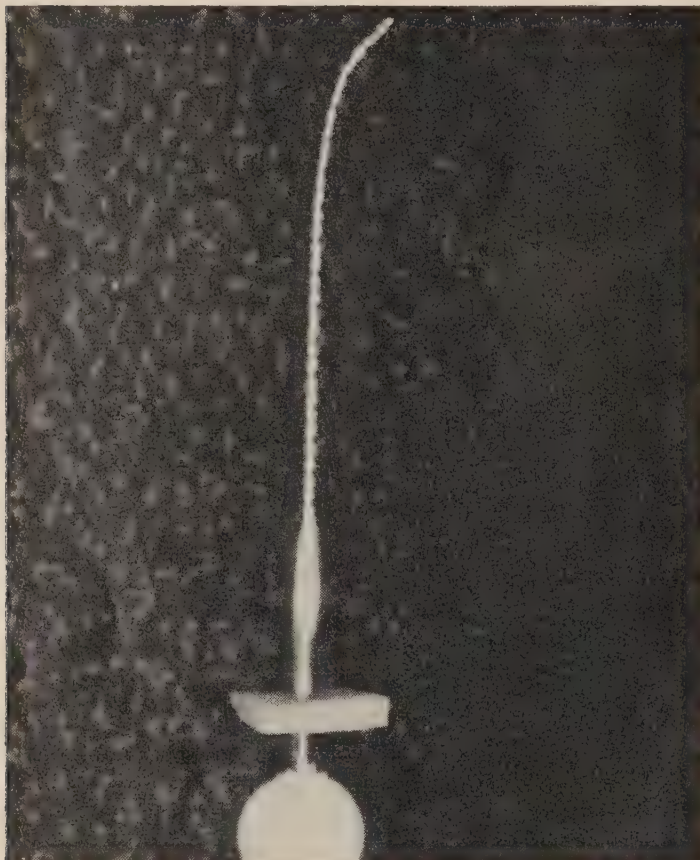
achieved by drawing the instrument across a metal ruler, cotton pliers or a fingernail. Subsequent resterilization of the instrument before use is mandatory, of course.

Flexibility diminishes considerably in instruments beyond size 25. Clem¹³ and Mullaney and Petrich⁹ have therefore suggested a method whereby the canal is first enlarged to the apex with a relatively small instrument (generally smaller than size 35). The lumen is then progressively enlarged to within a few milli-

metres of the apex until it accommodates a size 60 instrument. A smaller pre-curved file is passed intermittently through the complete length of the canal to ensure that no debris impacts in its apical portion. Concomitant irrigation assists in the evacuation of all debris.

Pre-curved files, supplemented by accurate radiographs, adequate irrigation and tactile sensitivity, facilitate access to the apex of most teeth. Once the length of the canal has been determined, suitable

A



C



B



D

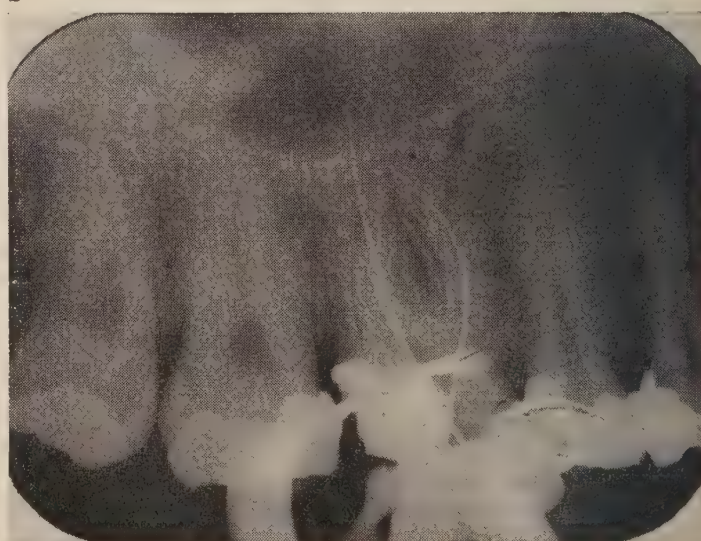


Fig 2 The apical portion of the file (A) is sharply bent when enlarging a canal with a dilaceration (B). In all other cases, a more gradual curve is placed on the enlarging instrument (C, D).

curvature is maintained in successive instruments until the preparation is completed.

Incremental instrumentation

The Second International Conference on Endodontics established specific width increments between instruments graduated from one size to the next. The actual increments are 0.05 mm in instruments narrower than 0.6 mm at the tip (a point referred to as D_1), and 0.1 mm in those which are wider than 0.6 mm at D_1 (Fig 3).⁸

However, in extremely narrow sclerotic canals, even this small difference between one instrument and the next is too great. The dentist often has to use considerable rotation or force in order to reach the predetermined length. Rotation may cause the instrument to break when its flutes bind in the dentine. Force

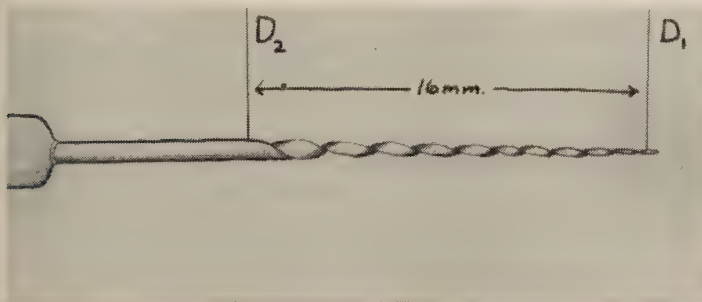


Fig 3 As established by the Second International Conference on Endodontics, the flutes of an endodontic file extend for 16 mm from the tip D_1 to D_2 . (Courtesy of Doctor Richard Sanders, Los Angeles.)

distorts the instrument's curvature until it no longer conforms to the original configuration of the canal. This results in ledge formation and eventual perforation of the canal wall as the dentist creates a new canal that does not lead to the apical foramen.

To lessen the chances of such accidents, intermediate increments may be established by trimming the tip of smaller instruments before using the next size. This is accomplished by cutting off one millimetre of the tip with a sharp scissors and then using a diamond fingernail file to re-establish the bevel and remove sharp edges from the tip. The cutting blades extend 16 mm up the shaft of an instrument from D_1 .² Therefore, the width increases by approximately 0.02 mm per millimetre of length. If one millimetre is trimmed from the tip of a size 10 file, it becomes equivalent to a size 12 instrument.

This method may be employed in any canal where the next larger instrument does not readily go to place. It should also be employed routinely in the initial phases of enlargement of canals that are difficult to prepare.

Summary

More teeth with narrow and tortuous root canals are being treated than ever before. Two methods are described which assist in the successful treating of these teeth. First, instruments should be pre-curved before being introduced in a root canal. A sharp curve is used when a root dilaceration or obstruction is anticipated. A more gradual curve is utilized elsewhere. Secondly, instrument width increments can be refined beyond the increments established by the Second International Conference on Endodontics. This is accomplished by reducing the tip of each file after initial use and then using the modified file again before resorting to the next larger instrument.

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Basic steps in cardiopulmonary resuscitation

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Every dentist should be prepared to administer cardiopulmonary resuscitation wherever he may be. Complex equipment is unnecessary for this purpose; judgement, skill, split-second timing and the quick application of life-saving measures are all that is required. Doctor Gaum outlines the basic manoeuvres for restoring a patent airway, respiration and circulation. Medication is relatively unimportant and should never be the initial step in reviving a patient with acute cardiopulmonary and cardiovascular collapse. Maintaining a proper airway, as Dr. Gaum points out, facilitates oxygenation and can spell the difference between life and death.

Le dentiste doit être prêt à tout moment à pratiquer la réanimation cardiopulmonaire. Celle-ci ne nécessite pas d'équipement complexe mais plutôt une démonstration de jugement, de savoir-faire, et l'application rapide, à la seconde près, de mesures vitales. Le Dr Gaum décrit ici les mesures essentielles pour rétablir l'ouverture des voies aériennes, la respiration et la circulation. Les médicaments ont assez peu d'importance et ne doivent jamais être la première mesure à prendre pour ranimer un patient atteint de prostration cardiopulmonaire et cardiovasculaire. Le Dr Gaum fait remarquer que le maintien des voies aériennes ouvertes facilite l'oxygénation et peut décider du succès de la réanimation.

Acute cardiopulmonary and cardiovascular collapse is an ever-present hazard in dental practice. This article describes the basic elements of cardiopulmonary resuscitation so that a dentist may render appropriate first aid to victims inside or outside his office.

The principal causes of cardiopulmonary collapse are anaesthetic allergy and idiosyncrasy, asphyxia, accidental injury, drowning, electric shock, myocardial infarct and sensitivity reaction (insect bite, snake bite).

Respiration and circulation may stop simultaneously; or one may cease, and several minutes later the other will follow.

Resuscitation is best achieved by exhaled air ventilation and external cardiac massage.^{1, 2} Revival depends on executing the requisite manoeuvres in an orderly fashion. Attention must first be directed to clearing the airway, then to managing respiration, and finally to restoring the circulation. This sequence is important. It is pointless to concentrate on the circulation when the airway is obstructed and the brain deprived of oxygen. Often, the unconscious victim only needs airway management if he has a strong pulse and his respirations are normal but the airway is obstructed.

Airway

The rescuer should place himself at the level of the patient's shoulders. The subject should be supine and on a firm surface, to facilitate cardiac compression if it is necessary. If the patient is in a dental office, he should be moved to the floor. The victim's head and



Fig 1 Airway obstructed. A, base of tongue. B, epiglottis. C, posterior pharyngeal wall.



Fig 2 Airway opened. A, base of tongue. B, epiglottis. C, posterior pharyngeal wall.

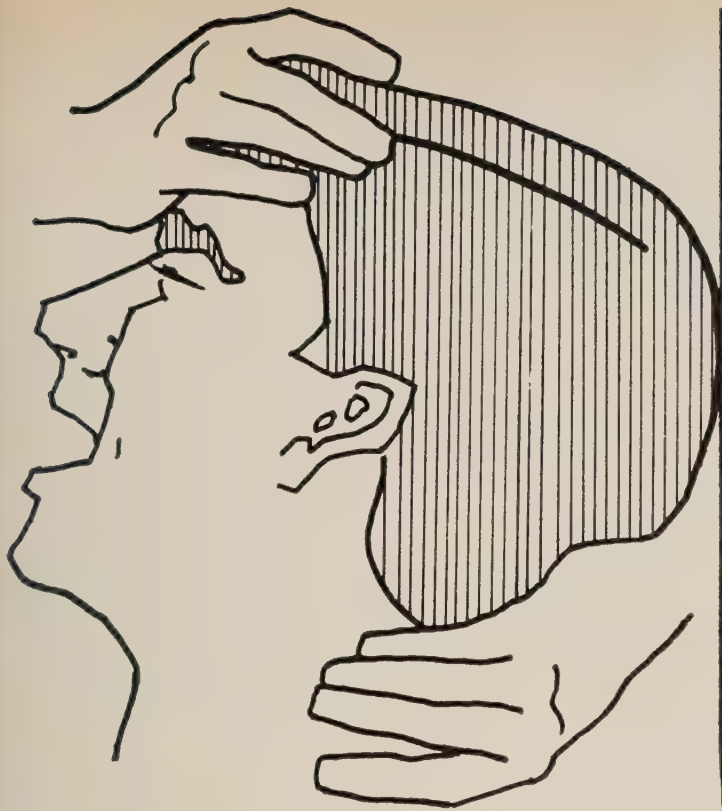


Fig 3 Head tilt.

jaw are manipulated to establish a patent airway. The objective is to create and maintain an open pharynx with maximum space between the base of the tongue and the pharyngeal wall.^{3, 4} The base of the tongue must be kept forward and away from the posterior pharyngeal wall and epiglottis (Fig 1, 2).

Any or all of the following methods can be used to establish a patent airway:

Head Tilt — Hyperextend the patient's head as far as you can, placing one hand on the forehead, the other under the back of the neck (Fig 3).^{5, 6}

Chin Lift — With the head hyperextended, place your thumb in the patient's mouth on the symphysis of the mandible and pull forward and up (Fig 4).

Jaw Lift — With the head hyperextended, place both your hands below the angles of the jaw and apply upward force. This displaces the mandible forward and carries the tongue with it (Fig 5).

All gastric content and foreign objects must be removed from the mouth, nose and pharynx. The rescuer should be particularly alert for dentures which can easily slip out of sight behind the tongue in the oropharynx. If suction is available, it should be used. Otherwise, the rescuer must tip the victim's head to one side and swab or scoop out material with his fingers. It is imperative to evacuate as much as possible and remove large objects without delay. If necessary, some material may have to remain, even at the risk of being forced into the lungs. But this is preferable than sacrificing precious seconds during which the patient may suffer irreversible vasomotor collapse.

Breathing

It may be necessary to resort to exhaled air ventilation if the foregoing measures fail to restore normal



Fig 4 Chin lift.



Fig 5 Jaw lift.

respiration. Two techniques are available: mouth-to-mouth and mouth-to-nose ventilation.⁷⁻⁹

Mouth-to-Mouth — Position the victim's head using one of the three techniques for establishing a patent airway. With your free hand pinch and seal the patient's nose. Apply your lips so as to make a wide seal around the patient's mouth; then inflate his lungs. His chest should expand readily. If the patient does not exhale spontaneously, resort to sternal compression.

Mouth-to-Nose — Use this method if the teeth are clenched and the mouth cannot be opened, or if your mouth is too small to seal a patient's larger mouth. In adults, inflate the lungs 12-15 times per minute. Greater inflation pressure is necessary to overcome resistance from the nasopharynx. With infants, place your mouth over the child's mouth and nose and inflate 20-30 times per minute.

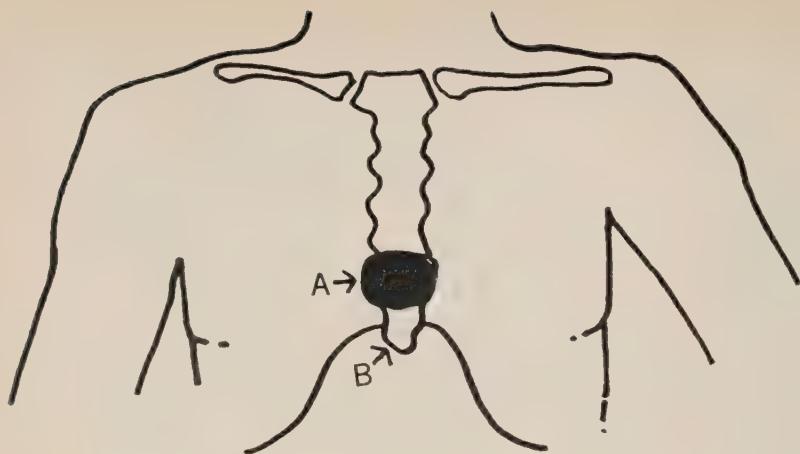


Fig 6 External cardiac massage. Pressure is applied to the midline of the sternum (A) above the xiphoid process (B).

Children require smaller inflation pressures than adults. Infants and small children require only a third or less than the pressure necessary in adults.

Circulation

In the absence of a pulse, external cardiac massage must be applied immediately.¹ Exert pressure over the lower half of the sternum as follows: first, place the heel of one hand in the midline above the xiphoid process (Fig 6); then place the heel of the second hand over the first. If at all possible, the patient should rest on a solid surface. Keep your elbows straight and compress in a direction that is as perpendicular to the floor as possible. The rate of compression should be about one per second, with force applied to the heel of the hands only — not the palms.

Infants and small children require less pressure, the force applied being less than can be exerted by the index finger alone.

If the rescuer is alone, cardiac compression and pulmonary resuscitation should be in the ratio of 15:2. If another person can help, the ratio is usually 5:1.

Patient evaluation

Assessment of the patient begins when he is first observed. The pulse, colour and reaction of the pupils give early indications of the success of revival measures.

The carotid pulse is easy to check and can be palpated between the sternomastoid muscle and trachea at the level of the thyroid cartilage. The lack of a pulse may indicate cardiac fibrillation or complete arrest.

The victim's colour should return to normal if he is properly resuscitated. Failure is reflected by persistent cyanosis of the lips, earlobes, nail beds or skin.

The pupils should be constricted and react to light. Fixed dilated pupils that do not react to light for more than 15 minutes are a grave signal and usually indicate vasomotor collapse with irreversible brain damage.

Eventually, the patient may cough, move and begin to breathe on his own. Thereafter, he must be moved as quickly as possible to an intensive care unit where he may receive additional treatment and proper observation until he can be discharged.

Conclusion

Every dentist should be able to administer cardiopulmonary resuscitation wherever it be, in his own office or at the scene of an automobile accident. The basic manoeuvres for restoring a patent airway, breathing and circulation are straight forward, and the dentist should familiarize his office staff with these procedures.

The use of medication should never be the initial step in cardiopulmonary resuscitation. Maintaining a proper airway, on the other hand, to permit adequate oxygenation can make the difference between life and irreversible death.

Doctor Gaum was a former resident in general anaesthesia at the University of Pittsburgh and affiliated hospitals. He is now engaged in the practice of oral surgery at 1355 Victoria Park Ave, Toronto 375.

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Denture service for a spastic diplegic: Report of case

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J. C. MacMillan, MD, Scarborough, Ont

A 37 year old spastic who required surgical, restorative and prosthodontic service was treated under general anaesthesia. Pantographic tracings, used to record the interocclusal relation and mandibular movements, disclosed asymmetrical mandibular rami and steep but disparate condylar inclinations. Unlike most pantographs, the tracings obtained in this case were straight lines. The complete upper and partial lower dentures constructed for this patient have been well tolerated so far.

Un patient atteint de paraplégie spasmodique a reçu des soins chirurgicaux, de restauration et de prothèse sous anesthésie générale. Les tracés au pantographe qui ont servi à enregistrer le rapport interocclusal et les mouvements mandibulaires ont révélé des branches montantes asymétriques de la mandibule, ainsi que des inclinaisons condyliennes qui étaient fortes mais qui n'étaient pas en harmonie. A la différence de la plupart des pantographes, les tracés obtenus dans ce cas étaient des lignes droites. La prothèse complète supérieure et la prothèse partielle inférieure que porte le patient ont été bien tolérées jusqu'à présent.

One of the aims of the Department of Dentistry of the Scarborough General Hospital is the provision of complete dental service for patients who cannot be treated in a dentist's office. The following report illustrates one of the ways in which this objective is being realized.

Case report

History and examination—The patient, a 37 year old male of normal intelligence, had been a cerebral spastic from birth. In 1959 he underwent a lengthy gastro-oesophageal repair. The right ninth rib had been fractured in 1968 and was poorly healed.

Physical examination disclosed limb atrophy, especially of the lower limbs, and motor abnormalities associated with cerebral palsy. Blood pressure was 110/70, and the pulse rate was 80 and regular. Laboratory findings were within acceptable limits. The patient was given promazine (Sparine) 50 mg, four times a day to reduce the intensity of the abnormal motor activity.

The pre-operative dental examination was hampered by the subject's lack of motor control. The mandibular

teeth appeared to be in reasonably good condition. It was quite apparent, however, that the two remaining maxillary incisors seen at this stage could neither be retained; nor would their retention have served any purpose.

We decided to make a more thorough clinical and radiographic examination under general anaesthesia. Requested by the patient and his parents, we also agreed to attempt prosthetic service, with the clear understanding that the prognosis was at best guarded.

First operative procedure—General anaesthesia was induced with intravenous thiopental followed by nitrous oxide-oxygen-halothane administered through naso-endotracheal intubation. Further clinical examination at this time disclosed the following teeth and carious lesions: upper left central and lateral incisors; upper right cuspid and second bicuspid roots; lower left central and lateral incisors; lower left cuspid with a buccal lesion; lower right central and lateral incisors; lower right cuspid with a labial lesion; lower right second bicuspid with a buccal lesion.

The mandibular incisors showed marked occlusal wear. There was a little calculus and the periodontal tissues showed slight degenerative change.

A complete series of periapical radiographs was made with a portable unit. Inspection of the wet films disclosed the presence of an upper left second bicuspid root. The mandibular alveolar support seemed adequate. No other apical or carious lesions were seen except those noted on visual examination.

Preliminary alginate impressions and an interocclusal record were made and set aside.

The cavities in the two lower cuspids and lower right second bicuspid were prepared and restored using Dycal, Copalite varnish and silver amalgam. All lower teeth were scaled and polished.

The procedure was then interrupted while we scrubbed and donned surgical gowns and gloves and the patient was draped and prepared for surgical procedures.

Next, we tried, but failed, to extract the two upper left incisors with forceps. A muco-periosteal flap was reflected from the area of the upper left first molar to the cuspid region and the roots were removed. Curettage of the sockets yielded a small amount of granulomatous material.

Bone and soft tissue were trimmed and the wound was closed with interlocking 000 chromic sutures.

Subsequently, the patient was extubated and returned to the recovery room in good condition.

Using the alginate impressions, a cast framework

was made for a lower partial denture. A wax biterim was constructed on this frame. An acrylic tray was made for the final impression. This tray also had a biterim on it.

Second operative procedure—The patient was re-admitted six weeks later. Under naso-endotracheal anaesthesia we adjusted the acrylic impression tray and took the final impression with a rubber base material. The previously prepared biterims were then adjusted in preparation for registration of the interocclusal relation and mandibular movements. Clutches were made from self-curing plastic and pantographs were mounted on the patient's face to record the requisite registrations. Thereafter, we selected the desired shade and mould of the artificial teeth.

The patient was then extubated and sent to the recovery room in good condition.

Using the pantographic tracings, the casts were now mounted on a Denar articulator. This revealed several features which might otherwise have been overlooked. In the first place, we noted a marked asymmetry in the length of the mandibular rami; this had not been observed previously. Secondly, the pantographic tracings were straight rather than curved lines. Third, the condylar inclinations on both sides were unusually steep but differed markedly from side to side. Finally, no immediate side shift was recorded.

The dentures were then prepared for the try-in stage. Incisal and cuspid guidance was carefully related to the steep condylar inclination in order to limit any tendency to mandibular protrusion. Tried in the mouth, the dentures fitted exactly as on the articulator. Some teeth were moved and others were reduced to refine the occlusion.

The dentures were then finished and inserted. The patient appeared to tolerate them well, though some slight revision of the peripheral border was necessary.

The patient is being closely followed. So far he has used the dentures successfully; only very minor adjustments have been required.

Discussion

The procedure described was adopted because it offered the most precise method of determining this patient's normal occlusal pattern. We used general

anaesthesia and a paralyzing agent to eliminate his abnormal muscle function. This enabled us to work to the skeletal pattern, the only stable factor in this case.

The Denar articulator possesses a wide range of adjustability which permits near-perfect duplication of the patient's mandibular movements. The pantographs are relatively easy to use, clutches are easily fabricated, and the whole recording can normally be completed in under an hour — far less than the time required with some other articulators. The Denar articulator is also less expensive.

The pantographic tracings disclosed mandibular asymmetry. The condylar paths in the sagittal plane showed steep inclination with marked difference between the two sides. The tracings were straight lines.

The lack of symmetry was predictable in terms of Wolff's law. More difficult to account for were the straight line tracings. We offer two possible explanations for this phenomenon: either (1) the skeletal pattern of this particular patient just happened to be that way, or (2) the curved lines obtained in most pantographs result from the influence of neuromuscular mechanisms peculiar to individual patients; tracings made where neuromuscular influences are suppressed would consequently be straight lines. Obviously, we can draw no conclusions on the basis of a single case.

Conclusion

Denture service for a handicapped patient, using hospital facilities and gnathological techniques, is described. While the case is of relatively recent date, the results have at least been moderately successful in practical terms. More important, we have gained some insight into the management of this type of problem.

Doctor Mulrooney is chief and Doctor Adams is a member of the attending staff of the Department of Dentistry; Doctor MacMillan is a member of the attending staff of the Department of General Practice, Scarborough General Hospital. Doctor Mulrooney's address is 2300 Lawrence Ave East, Scarborough, Ont.

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Book Reviews

Oral Surgery

K. H. Thoma. Vol 1 and 2. Ed 5. St. Louis, The C. V. Mosby Company, 1969. 1264 p. Illus. \$74.25

The fifth edition of this monumental work has been thoroughly revised and updated in accordance with the advance of scientific knowledge.

A 42 page section on local and general anaesthesia has been added by J. L. Vanderveen. Pathology has retained its basic significance and pharmacology has been updated very satisfactorily.

Two volumes make for convenience of use and both volumes contain the complete index, with the pages of volume two identified by bold face type. The indexing is meticulous, the printed index alone requiring 43 pages. The text has been divided into a greater number of chapters and several additional chapters have been added. The result makes the location of desired information much easier for a busy practitioner who seeks a rapid reference.

More attention is given to the everyday problems of oral surgery. There are also chapters on odontogenic infec-

tions, infectious diseases of the jaws and associated tissues, and infections and tumours of the maxillary sinus. Fibrous dysplasia is described more fully than in former editions, as is also the intra-osseous giant-cell reparative tumour. Perhaps more space than necessary is devoted to skeletal fixation. Nevertheless, the new material, the extensive rearrangement and the rewriting make the new edition a much more convenient and valuable reference which should have more appeal to the general practitioner than former editions. The amount of information presented is encyclopaedic, well arranged and well indexed.

The author states in the preface that "the book contains my life's work." It has been a long and valuable life, and the fifth edition deserves the approbation and endorsement of the dental profession.

J. H. Johnson

Partial Dentures

John Osborne and G. A. Lammie. Ed 3. Oxford and Edinburgh, Blackwell Scientific Publications, 1968. (Available from The Ryerson Press, Toronto) 443 p. Illus. \$12.00

This is a third edition of the very popular British textbook on the subject of removable partial dentures. The general format is unchanged, but the text has been revised and several new illustrations have replaced previous ones. Thankfully, the reader is spared numerous chapters on laboratory procedures. Instead, the text concentrates on physiological and pathological principles of removable partial denture design.

The authors are obviously aware of the growing role of removable prosthodontics in today's dental practice. They consider the removable partial denture in its biological milieu and come to the inevitable conclusion that future developments in this field must be seen in the context of maintaining the periodontal integrity of the remaining teeth. There is an excellent chapter on the aetiology and principles of treatment of periodontal disease. Dr. Lammie's convictions are quite evident here and, although his views are controversial, he is always stimulating. The statement that "success has been far from universal; it may well be that a proportion

of these failures has occurred due to a lack of understanding of the nature of periodontal disease" lends emphasis to the authors' view that a removable partial denture is much more than "a full denture with holes in it." Their argument in favour of linking periodontal treatment irrevocably with prosthetic treatment is well developed and convincing. The teaching of these two subjects to undergraduates demands the closest integration between departments of periodontics and prosthodontics.

The book makes for lucid reading and the subject matter is well integrated. Unlike some North American publications on the subject, it is never stuffy or pretentious. The division into chapter headings is conventional. Design principles are discussed according to the Kennedy classification. This is the weakest part of the book and the relevant chapters need better illustrations of actual case histories rather than diagrammatic representation. The chapter on materials is unbelievably superficial.

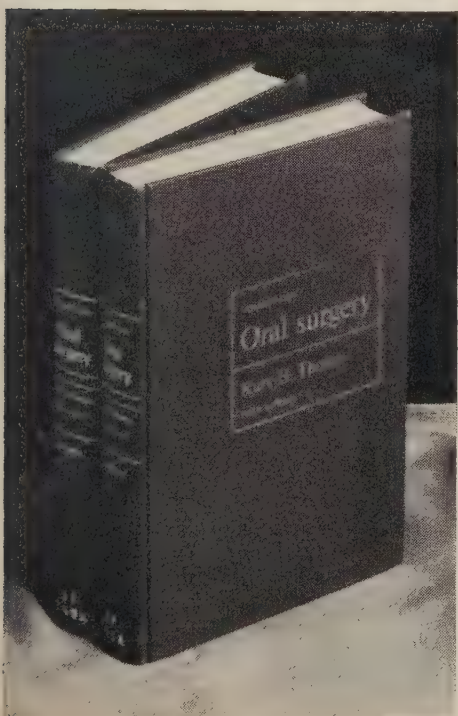
Nevertheless, *Partial Dentures* is a very good book which regards the removable partial appliance as an integral part of denture care. It is a genuine attempt to present a concise, well documented analysis of a complex and yet engrossing topic. The subject is presented in very simple and direct terms and I recommend it enthusiastically to both the undergraduate and the busy practitioner.

G. A. Zarb

McCracken's Partial Denture Construction

Davis Henderson and V. L. Steffel. Ed 3. St. Louis, The C. V. Mosby Company, 1969. 476 p. Illus. \$17.05

Henderson and Steffel, as co-editors of the new third edition of *McCracken's Partial Denture Construction*, have carried this famous book forward into the nineteen-seventies. The philosophy of the original preface and content of the first edition remains undiminished. Henderson and Steffel have merely clarified and updated the writing where necessary, though very little change was needed. They have also added a new



chapter about laboratory work authorizations.

The text is without peer for undergraduate and postgraduate curricula as well as for interested practitioners. It is likely to remain so for a long time to come.

The editors must be commended for immortalizing this invaluable record of McCracken's teaching. My suggestion: read it, study it; you will find no equal.

H. W. Hart

The Prevention of Complications in Dental Surgery

H. S. Killey and L. W. Kay.
Edinburgh and London, E. & S. Livingstone Ltd, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 228 p. Illus. \$5.60

The preface of this British publication states it was written for undergraduate and postgraduate students and is especially directed to newly qualified practitioners. Not every complication is discussed but the more likely hazards are mentioned with emphasis placed upon their prevention. This makes for a compact book to which the authors, who are well known oral surgeons, have added a lively style. Their valuable chapter on "Complications in Patients Admitted to Hospital for Surgery under General Anaesthesia" should be prescribed reading for oral surgery residents and any dentist who admits a patient to hospital for treatment under general anaesthesia. It contains advice that is not easy to find in such a concise form and provides a good list of references for further reading.

Though 55 per cent of the book is directly related to oral surgery (chapters 2, 5 and 6), 28 per cent deals with problems in the dental office (chapters 1, 3, 7 and 8); 10 per cent is devoted to out-patient general anaesthesia and 7 per cent to medico-legal problems. In addition, there are 77 case histories taken from the files of the Medical Protection Society; these illustrate complications which resulted in claims against dentists. Unfortunately, some case histories depict outdated practices and these may well be replaced in future editions.

In chapter 4, on "Complications during Out-Patients General Anaesthesia," five of the case histories cited terminated fatally and are sufficient to dissuade any practitioner from attempting general anaesthesia without sufficient training. Problems of iatrogenic disease are discussed in the chapter on "Complications from Drug Therapy." This is a very useful quick reference for the

general practitioner who treats patients receiving drug therapy.

The chapter on "Ethical and Medical Legal Complications" by Doctors Constable and Allott serves to remind readers of the ever present possibility that a patient may seek legal redress for treatment which he deems, rightly or wrongly, to be unsatisfactory. Sound guidance is offered to minimize this hazard. The advice on limitation is not applicable to the Canadian scene. Comments on liability and the subsequent examples of sources of litigation would have been considerably strengthened had there been an attempt to distinguish between "malpractice" and "negligence." The reader who does not comprehend the legal significance of these terms cannot fully appreciate his potential liability risk.

The authors might well take the advice given on page 222 "to use simple language and to shun any phrasing which might imply a desire to impress;" neurapraxia, axonotmesis, and neuratmesia in one sentence sent me diving for the medical dictionary. These criticisms should not detract from the usefulness of this publication. All practitioners will find sections that will be of help and interest.

A. G. Parnell

Materials for the Practicing Dentist

R. W. Phillips, Marjorie L. Swartz and R. D. Norman. St. Louis, The C. V. Mosby Company, 1969. 211 p. Illus. \$14.05

The authors of this book have realized quite correctly that most dentists in the United States and Canada have had minimal formal academic instruction in the discipline and management of materials used in dental procedures. Accordingly, they try to fill this need with a compilation of selected topics pertinent to the clinician practising general dentistry. Keeping in mind this select readership, only the materials that are used at the dental chair are described in any detail; materials and techniques used primarily by technicians and ancillary personnel are deliberately omitted.

The authors have divided their material into the following 12 chapters: (1) Physical and biological properties of dental materials, (2) Cavity lining agents and intermediary bases, (3) Dental cements for luting and for temporary restorations, (4) Silicate cement, (5) Amalgam restorations, (6) Hydrocolloid impression materials, (7) Rubber base impression materials, (8) Gypsum products, (9) Cast gold restoration materials

and techniques, (10) Denture base resins, (11) Restorative resins, and (12) Direct filling gold, porcelain and chromium alloys.

Because of its limited scope, this is not a textbook on dental materials. The book should thus have greater appeal to the general practitioner. No secrets as to the best materials or techniques are revealed except where sufficient experimentation and documentation dictate a choice. Controversial materials and techniques are not considered. Brand names are used judiciously throughout the book; this is a refreshing departure from other books.

Chapters 8, 9, 10 and 12 are highly condensed and the bibliographies at the end of each chapter are very short. This may not satisfy those dentists who do much of their own laboratory work. Nevertheless, this book should fill the needs of many practising dentists.

L. N. Johnson

Syllabus of Complete Dentures

C. M. Heartwell, Jr. Philadelphia, Lea & Febiger, 1968. (Available from The Macmillan Company of Canada Limited, Toronto) 456 p. Illus. \$18.75

This is a good book. Any reader will appreciate the fact immediately he picks it up to read—whether by the page, topic, chapter or from cover to cover. The author wisely identifies his publication a "syllabus" rather than the usual "text."

The very foundation of this writing is in its emphatic first chapter. Titled "Anatomy and Physiology," it is supported by innumerable references.

The topic of articulators occupies the second chapter. This unusual sequence stems from a desire to correlate, as early as possible, information about available armamentarium with the basic science foundation of the discipline.

Adequately covered, though rather late in the text, is the well recognized need for pre-treatment of abused tissues. It would have been preferable to relate this topic to diagnosis.

Psychological considerations, so important nowadays in complete prosthodontic treatment, have not been overlooked. And the chapter on "immediate" treatment is conservative in tone, as it should be.

Lea and Febiger have printed the book in double column format—a boon to readers. The result is a very praiseworthy book, indeed.

H. W. Hart

Straight from the Ontario Council of Health

There is something painfully reminiscent about the recent report from the Ontario Council of Health. First, it unwraps a tantalizing package of dentists, dental associates, therapists and diverse other goodies. Then, presto!—the vision dissolves in a cryptic statement proclaiming the Council's acceptance of modified methods of delivering dental care pending the outcome of further study and demonstration projects.

What is it that the Council's report skirts with such remarkable delicacy? Why, it's those 18 proposals from its Manpower Committee. Some of them are startling. The first one we saw got us excited, too. Ontario, it said, needs a school dental health program "to provide an alternative and optional service to existing resources. This program should be operated under the supervision of dentists, and staffed by associates, employed by the Province of Ontario."

To get those associates by 1972, the manpower experts urged that courses "be established to synchronize, with the development of a school dental health program, the graduation of as many dental associates as possible, up to 125 per year."

That's not all. "Therapists (upgraded hygienists) should be trained in a minimum ratio of 2:1 with graduating dentists for 10 years, providing for revision of the numbers as demand is established for this type of auxiliary." In the meantime "the province [should] devise some form of financial arrangement to encourage private practitioners of dentistry to employ dental therapists."

Some of the Manpower Committee's other recommendations lack this kind of piercing clarity. Take the one which suggests that conferences be held with the dental profession to obtain their cooperation in the training of dental associates and therapists. Does this signify a genuine willingness to seek the profession's advice or is it a thinly veiled ultimatum indicative of a determination to proceed regardless of the consequences?

Landmark, watershed, giant stride, cornerstone—call it what you will—it says something when the Ontario Government's senior advisory health body sees fit to mention such proposals in its official report. The Council is obviously seized with the importance of dental health. It singles out increased education, higher living standards and labour union policies as forces which will escalate the demand for dental services.

Ontario, it says, must rise to this challenge by increasing the productivity of the dentist with auxiliaries working under his supervision and by reinforcing more traditional preventive and public health measures.

There is nothing very revolutionary about these propositions. They reflect concepts that various dentists have espoused for more than a decade. Where we differ is over the methods recommended and the exact mix and composition of dental manpower proposed in the Council's report. These are truly sore points, to which the Council must pay some attention. But this much is clear: the dental manpower problem isn't going to go away. Instead, it must be solved. And the dental profession must take the lead in formulating solutions to this complicated situation.

That is precisely why, for the third time in as many years, the CDA Auxiliary and Dental Services Committees will submit a joint resolution to the Board of Governors next July on this crucial question. The text of the resolution is as follows:

"Whereas the services of dental auxiliaries are essential to the efficient delivery of dental health care, and

"Whereas the licensed dentist must assume ultimate responsibility for the welfare of his patients and the competent performance of all dental services rendered at his direction, irrespective of the personnel involved in the delivery of these services, therefore be it

"Resolved that it is the right of the dentist, subject to his licensing authority, to delegate to formally trained auxiliaries over whom he exerts effective supervision and control such duties as do not require the professional knowledge and skill of the dentist, and be it further

"Resolved that it be respectfully recommended to provincial licensing authorities to extend every effort to create such legal environment for the practice of dentistry as will make possible the effective implementation of the above principle."

This resolution provides a reasonable basis for the orderly development and expansion of dental health care. Its adoption will enable dentists in Ontario—and elsewhere, for that matter—to produce workable alternatives to the problems that are laid at their doorstep. They can't be solved equitably in any other way.

Roentgen, radios et radiation

On célèbre cette année le 125^e anniversaire de la naissance de Wilhelm Conrad Roentgen qui a été rendu célèbre par sa découverte des rayons X. Après avoir enseigné à Strasbourg et à Giessen, c'est en 1895 que Roentgen détecta une nouvelle sorte de rayons qu'il avait alors appelés les rayons X. Il fut le premier, grâce à cette découverte, à obtenir le prix Nobel de physique en 1901. Avec les Français Pierre et Marie Curie, qui ont découvert la radioactivité du radium et du polonium en 1898, Roentgen est le fondateur de la radiologie.

Une firme allemande vient de présenter pour la première fois, à Tokio, lors du Congrès international des radiologues, un nouvel appareil électronique qui permet de mieux faire ressortir sur des radiographies un détail important pour le diagnostic en supprimant les superpositions gênantes telles que les structures osseuses ou les éléments d'organe. Le "soustracteur" complète l'appareil de radiographie proprement dit et permet d'accentuer la luminosité de tel ou tel détail de l'image qui apparaît plus contrasté. Les spécialistes, qui pourront régler à volonté la luminosité déceleront ainsi rapidement sur une radio un corps étranger ou des fractures restées inaperçues.

Voici donc les deux extrêmes de la radiologie, depuis ses débuts jusqu'à la toute dernière découverte. Entre ces deux limites existe un vaste champ où évoluent les dentistes. Selon le rapport du Conseil des recherches de l'ADC publié dans les *Délibérations* de 1967 (p. 136), "la radiographie est devenue un instrument de diagnostic indispensable à l'art dentaire moderne. Cependant, si elle est employée de façon irréfléchie, elle comporte des dangers et pour l'opérateur et pour le patient".

Rien de nouveau, me direz-vous. Et pourtant, combien de praticiens négligent de couvrir le patient d'un tablier de plomb pour protéger les gonades contre la radiation? Combien de dentistes n'ont pas encore adopté les films ultrarapides qui permettent une réduction du temps d'exposition? Combien de dentistes utilisent encore de vieux appareils où le faisceau de rayons n'est pas bien collimaté et qui ne sont pas équipés de chronomètres électroniques?

Même les précautions nécessaires pour protéger l'opérateur sont négligées. Selon le Conseil des recherches de l'ADC: (1) le cordon du commutateur devrait être assez long pour permettre à l'opérateur de se tenir à 10 pieds du patient; (2) la position la plus sûre du dentiste pendant l'exposition d'un cliché dentaire se trouve approximativement à angle droit par rapport au faisceau de rayons; (3) si l'opérateur ne peut suivre ces précautions, ou s'il désire une protection supplémentaire, il peut se placer derrière un mur (brique ou béton) ou un écran de plomb; (4) si le dentiste désire vérifier l'efficacité de ses mesures de sécurité, il peut le faire de plusieurs façons, dont la meilleure est de recourir au service de protection contre les radiations qu'offre la Division de la protection contre les radiations du Ministère de la Santé Nationale et du Bien-être à Ottawa.

L'Association Dentaire Canadienne vient de publier une nouvelle brochure pour l'éducation du patient intitulée *Les rayons X révèlent des lésions cachées dans les dents*. Imprimée en couleur et écrite dans un langage simple, cette brochure aidera le patient à comprendre les services que peuvent rendre les radiographies en tant qu'instrument de diagnostic.

Student representation on the Board of Governors

Last November's Canadian Dental Students Conference could be a real turning point in the affairs of Canadian dentistry. The meeting brought together, for the first time ever, representatives of student members of the Canadian Dental Association at nine of the nation's 10 dental schools. Following the conference, the Student Membership Committee of the CDA Council on Education passed the following resolution:

"Resolved that student membership on the Board of Governors of the CDA be established; this student governor would be a non-voting member and would be invited to attend Board meetings at his own expense; he would be elected annually by and from the delegates to the Canadian Dental Students Conference."

The Council on Education and the Executive Council have so far failed to reach a consensus on this important matter and the proposal must therefore go forward for consideration by the Board of Governors at the July meeting in Winnipeg.

In two short years more than a third of the country's dental students (544 out of 1,582) have taken out membership in the CDA. Student membership has actually doubled during the past year. This remarkable achievement betokens more than a passing interest in the affairs of organized dentistry — an interest which must be fostered and encouraged by giving student members a participating voice.

The kind of representation envisaged is analogous to that proposed for dentists employed by one of the three federal dental services — the Department of National Health and Welfare, the Department of National Defence and the Department of Veterans Affairs — which collectively employ 246 full-time and eight part-time dentists. These dentists hold provincial licences which entitle them to representation on the Board through their respective provincial governors. Additionally, since 1964, the Board has had a separate voting member nominated by the three federal services. The effect of this arrangement is tantamount to dual representation, and the Board therefore decided last November to replace this voting member

by three non-voting delegates on a new, enlarged Board after next July.

This solution removes the contentious issue of dual representation while, at the same time, preserving desirable liaison with the three federal services and, through their representatives, with appropriate agencies of the federal government.

The Ontario Dental Association has provided its student members with two non-voting representatives on the ODA Board of Governors for the past three years. One representative comes from each of the province's two dental schools. These elected student representatives have justified their presence at our meetings and have proved the workability and mutual benefit of such action.

A similar arrangement is proposed for representation of CDA student members who presently have no direct link with the Board of Governors. These are the dentists of tomorrow. The policies we set today will affect them more than they affect us who make the decisions. Concepts of practice and the philosophy of social service are changing rapidly; those whose professional careers will be most directly influenced by these changes should help us define our posture. We must therefore improve communication with these future members of our profession and stimulate in them an interest in the CDA. Direct representation on the Board of Governors will convince them of our sincerity.

*Ivan Hrabowsky, DDS
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St Catharines, Ont*

Aminocaproic acid for haemophilia

Recently, I had the pleasure of reading Doctor Gaum's article entitled "Use of Aminocaproic Acid in Oral Surgery for Haemophiliacs" (November 1969).

I was led to this article after having read a letter of comment by Doctor Duncan (December 1969). Having studied both the article and the letter, it appears that Doctor Duncan's discussion centers on the summary of the paper. Doctor Gaum's article clearly states that aminocaproic acid "gives excellent results in those haemophiliacs where bleeding emanated primarily from overactivity of the fibrinolytic system." Consequently, contrary to Doctor Duncan's suggestion, I do not see the need for a lengthy discussion on the subject of haemophilia. Although Doctor Duncan's didacticism was appreciated, I believe that his letter should have concentrated on the clinical facts presented. Further, Doctor Gaum obviously appears to be cognizant of the need for other forms of treatment when bleeding is due to faulty clot formation.

In conclusion, I look forward to further presentation of clinical evidence which supports the efficacy of such treatment as was presented by Doctor Gaum.

*Ronald Solomson
Third Year Student
Tufts University School of
Dental Medicine
Boston, Mass*

I was pleased to learn from Mr. Ronald Solomson's letter that the Journal is studiously read and critically evaluated by students of non-Canadian universities. I compliment Mr. Solomson not only for the interest he displays in the "Use of Aminocaproic Acid in Oral Surgery for Haemophiliacs" but also for his initiative in writing us about it.

No doubt, he observed that Doctor Gaum's article in the November Journal purported to be a case report; hence, the reason for my concentration on the summary or case report rather than on the first part or review of the literature. I did not wish to enter into a dissertation on the subject of haemophilia, as implied by Mr. Solomson, but rather desired to point out that there are many facets to haemophilia which may influence the success of a particular form of treatment. As a case report should be a complete documentation of a particular disease or syndrome it was the absence, rather than the presence, of pertinent data in this report which may have stimulated Mr. Solomson's comment that my "letter should have concentrated on the clinical facts presented."

*J. C. Duncan, DDS, MScD
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In preparing an article for publication, the author must take into consideration the amount of space available for his use in the Journal. With this in mind, he presents as much information as is necessary to provide an interesting and readable report. Common sense tells us that it would be ridiculous to include every aspect of the reviewed literature on the particular subject that one is discussing. Thus, a well documented publication contains a complete list of references available to those who seek this additional information.

I am very happy to learn that my article, "Use of Aminocaproic Acid in Oral Surgery for Haemophiliacs," in the November issue stimulated Doctor J. C. Duncan to seek additional information. I refer him to my complete list of references.

*L. I. Gaum, DDS
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Bilingualism

Since participation of readers was asked for in the Letters section, I have decided to write.

There is in this country at present something of vital concern to all Canadians, and therefore to all CDA members.

Presently there is much discussion concerning the white paper on taxation. The question being asked by many in the profession is "where does the government think it can keep getting all its money from?"

I think that it is time we asked ourselves, "where is all the money going to?"

The answer is very simple—French.

Before everyone jumps on me though, I should like to clarify. The law of the land, the British North America Act, allows the use of French in Quebec and in the courts of Canada. It does not make Canada a bilingual country. The official language is English. (The new language act is unconstitutional, since the federal government does not have the legal right to change the relevant section of the BNA Act—Section 133.)

This does not deter the government, however. Millions upon millions of dollars are being spent (your money and mine) to foster, nay promote, French. This is not right.

Surely the time has come to stop being led blindly by the government, and to question its policies.

Why does Toronto need a French-speaking CJBC at such a cost?

Why do some provinces, under the benevolent eyes of Ottawa, suddenly need French-speaking schools? Why indeed?

I say to Ottawa, *Stop*. Stop spending my money on things that I do not want. Stop spending my money on things I do not need. Stop spending my money on things that are neither legal nor constitutional. *Stop*.

French has no more right to be forced, at my expense, and at the expense of many other English-speaking Canadians (three-quarters of the population) on the people of Canada than Italian, German, Ukrainian or, for that matter, Cree.

This is an English-speaking country. This is my country, and I say *Stop*. We do not want bilingualism nor can we afford it.

Why should we all pay \$54 million of our money so that we can become second-class citizens for lack of French linguistic abilities? Why should people born in English-speaking Canada suddenly be unable to advance in their jobs because they speak only English? Why do nine provinces pay the piper when the tenth calls the tune?

French has had all the best opportunities to survive and thrive in English-speaking North America. The language of commerce in the world is English. The major language of science is Eng-

lish. If French cannot compete on its own then let it go the way of Latin.

I do not wish to force the Québécois to speak English. Let him do so if he finds it advantageous. Let him also accept the fact that this is an English-speaking country, and that I have no intention of being forced to learn French. I speak two languages now, being born in Germany, and I can get by (barely) in basic French. I do not, however, intend to be forced to become trilingual, especially with my own taxes.

To the dental profession I say this: Write to your members of parliament. Speak up. Tell them you do not like the government's policy. Rather than raise taxes endlessly, stop the waste by forcing French on us. Speak up. You pay the taxes. This is your country. The government needs your votes (at present anyway).

*Axel Ruprecht, DDS
105 Rowena Dr
Don Mills, Ont*

Auxiliaries and dental manpower

Doctor Geldart presents an excellent review (February Journal) of the various studies on dental auxiliaries which have been carried out in Canada and the United States. The work of the New Zealand and British auxiliaries is also well documented.

During the past six months we have been engaged in a research project utilizing three specially trained dental hygienists who place restorations in cavities prepared by dentists. Dental therapists in the Royal Canadian Dental Corps, when performing similar duties, increased the productivity of dentists by approximately 50 per cent.

Although our study is still in its early stages, the quality of the restorations is excellent. This opinion is shared by four dentists who have had one or more of these hygienists work in their offices and by eight other dentists who have observed the dental hygienists at work. As a result of this experience I am firmly convinced that dental hygienists can be trained to do many procedures in the mouth and to do them well.

Using existing methods of practice, dentists can provide adequate treatment for less than half of our population. Since not many more than half of our population can afford or desire adequate dental treatment we have managed reasonably well. However, the crunch is fast approaching. Adequate health care, including dental care, is beginning to be thought of as a right for all rather than a privilege for a few. Governments are very much aware of these rising expectations. At the present time several provincial governments are actively considering dental care programs for children. It is highly unlikely that any children's dental care program can be implemented without

the use of dental auxiliaries of one kind or another.

The dental profession must respond to this challenge. If we delay our decisions too long there is a very real danger that others will make them for us.

*R. G. Romcke, DDS, DDPH
PO Box 3000
Charlottetown, PEI*

I would like to congratulate Doctor Geldart for his beautiful article in the February issue of the Journal.

In his conclusions, he stated that dentists must be vigilant if they wish to prevent commercial exploitation of the practice of dentistry. If Doctor Geldart will permit me, I would like to add political exploitation as well as commercial exploitation—if a separation of the two can be made.

In my humble opinion, one of the gravest problems facing us at the moment is the inability, or unwillingness, of the members of the profession to work as a team in formulating the best possible programs for the enhancement of dentistry in this country whether these programs be in the area of student involvement in the CDA, auxiliary personnel or prepaid dental schemes.

If we fail to be vigilant in organizing and, therefore, are unable to put forth a unified front to the Canadian public, we must be prepared to face the consequences of our indifference which will be commercial and political exploitation.

I am rather alarmed at the lack of this awareness of team spirit in my own local dental society in a community which is supporting a dental plan for children. I must credit the local politicians for their interest in dental health, but I am terribly disappointed in the attitudes of the dentists who have attempted, and are trying, to direct this program as paid employees of the community.

At present, the local dental society is quite willing to assist the director in developing an effective dental program, but the director seems unwilling to accept ideas from these private practitioners, most of whom have been serving the community for numerous years. In other words, the team spirit is completely lacking.

If we produce dentists who try to direct public dental programs without consultation or approval from local private practitioners, we will have a division in our own ranks and the public will conclude that we are incapable of dealing with the dental problem. I am quite sure that as a profession we are capable of much more than such an administrative mess.

*L. E. Oates, DMD
1 - 500 Robert St
Swift Current, Sask*



W. G. McIntosh, DDS

A round of council and committee meetings at CDA Headquarters has made the pace of business even livelier than usual during the past six weeks.

Annual meetings were held by the Insurance Committee, Auxiliary Services Committee, Dental Services Committee and the Council on Public Health. Here are some of the highlights:

Insurance and retirement plans

Doctor Way and his able Insurance Committee members have virtually completed the reorganization and improvement of CDA-sponsored insurance and retirement savings plans. Full details are recorded elsewhere, but let me mention this: all inquiries, along with premium and savings cheques, should now be sent to Canadian Dental Service Plans Inc, 230 St. George St, Toronto 180. Mr. W. E. Jackson is the general manager of CDSPI and anxious to be of service. The old Yonge Street address no longer applies.

Resolution on auxiliaries

The Auxiliary Services Committee, chaired by Doctor Allison with a member from each corporate body, again looked at the question of the role of auxiliary staff in the dental profession. The committee was this year more convinced than ever that the status of auxiliary staff should be resolved. It will present to the Board of Governors annual meeting in July a further resolution embodying principles proposed (and turned down) the past two years. However, this year's resolution has been modified by including a "formal training" clause. The full resolution is reported in the news columns of this issue. Perhaps you'd like to discuss it with your CDA board member before he goes to Winnipeg.

Prepayment

The Dental Services Committee came to the conclusion that, like it or not, prepayment in its several possible forms is infiltrating the delivery of dental services at a rapid rate. The committee, headed by Doctor Currie, is gathering information on various types of plans, with their problems and advantages. It's been reported that some dentists have been approached by trade unions to set up closed-panel dental clinics. Is this what the profession wants?

TV, films, newspaper columns

Doctor Davey's Council on Public Health learned that new television regulations which will stamp all non-program material as commercials, regardless of whether they're paid ads or free public service announcements, are likely to cut down on the use of CDA-sponsored film clips. Up to now, they've been getting good use, and we have contacted the Canadian Radio-Television Commission to see what can be done.

Meanwhile, the council decided to switch its efforts this year from a new film clip to a 15-20 minute movie for high school audiences. A group of enthusiastic students from the Faculty of Dentistry, University of Toronto, are interested in the project and, under Doctor Davey's supervision and using the talents of these students, a new form of high school dental educational film is being considered. We hope such a film may be produced in the near future.

The council has also compiled a year's supply of brief articles for use as a weekly newspaper column on dental health. The column, "Dental Topics," is being offered free to 600 weekly newspapers to promote dental health information to the public.

Tax brief

The CDA brief in response to Mr. Benson's white paper on tax reform has been forwarded to the House of Commons finance committee and the Senate banking committee. Appearing with me at the Senate hearing on April 15 were President-elect W. J. Spence; Past President Henri Brouillet; H. N. Beach, chairman of the CDA's Subcommittee on Taxation; and Mr. M. L. O'Brien, CDA's tax adviser. Copies of the brief have been forwarded to every CDA governor.

People and places

Mrs. Helen Armstrong, my secretary, who has been working for the Association longer than anyone else on the staff, suffered a broken ankle in an accident at her home. She has been away from duty for several weeks but hopes to be back by the time this column appears in print.

Our April schedule included trips with President MacLean to the Hamilton Academy of Dentistry on April 9 and the annual meeting of the Saskatchewan Dental Association in Moose Jaw April 24 and 25.

Dialogue

The Alberta Dental Service Corporation, under recent contracts with two unions representing retail clerks and meatcutters, became the second Canadian dental service corporation to enter the field of prepaid dental care. Because the service corporation philosophy has come under fire in some quarters, the *Journal* invited a critic, Doctor R. M. Singer of Toronto, and a supporter, Doctor M. J. Lipkind, Calgary, to present their respective views on this topic.

Professional service corporations: an obsolete concept in Canada

The concept of a professionally sponsored service corporation to provide payment for professional services is old. In Ontario, Physicians Services Inc (a non-profit organization) was born on the initiative of, and financially supported by, the medical profession in the thirties. It served a segment of the population well, and died recently. All other similar service corporations in Canada are either dead or dying — killed by the Canadian government. In effect, they raised the cost of medical services, but they also failed to serve those who could least afford medical care: the poor, the unemployed, the aged, and those already sick.

Any third party payment for dental care must raise the cost of the care because the cost of administering the program must be added to the cost of the treatment. This added cost is not a factor to those receiving the treatment if they do not pay for it. Nonetheless, if the employer pays for it in whole or in part and the government, by means of tax relief, substantially reimburses the employer, the excess cost is really born by the general taxpayer.

Like the covered wagon and the steam locomotive, the professional service corporation in Canada has had its day. Would we resurrect the covered wagon and hail it as the transportation of the future? History passed it by. The clock cannot be turned back.

The individuals still advocating dental service corporations in Canada seem to be going the wrong way down a one-way street. They are well meaning people who advance two arguments. First, they contend that certain unions demand service corporations, and something vaguely dreadful will happen unless we do what these unions want. Obviously, any union would welcome such a device which benefits it at the expense of both the profession and the general taxpayer.

The initial cost of establishing a dental service corporation, though substantial, can be estimated with some degree of accuracy. But the continuing financial support, which must be borne by the profession, cannot be so well estimated and could result in disastrous financial loss both to the participating dentists and to the dental society. In New York, for example, the state

dental society had to disband its dental service corporation because losses were so severe that the society faced the possibility of bankruptcy. It is significant that these unions with their millions of dollars, who are urging dentists to establish dental service corporations, are averse to funding their own schemes.

The question of whether we should establish a dental service corporation must be decided on the basis of whether it is in the interest of the public we are pledged to serve and not by pressure group influence. History shows that, like other groups and individuals, unions will accept what they can get if they can't get what they demand.

The second argument of the proponents of the service corporation is that it would keep dentists in control of the delivery of dental services and avoid a comprehensive government plan. This hope is unlikely to be realized; in fact, progressive dentists would not wish it. It is increasingly apparent that politicians will share in the administration of all organizations involving the public. The reactionary hope that a dental service corporation would prevent massive government participation in the delivery of dental services is unrealistic. The profession is concerned with treating all people, and the dental service corporation, by its very nature, must restrict its services to certain privileged groups.

Plans run by private insurance carriers enable a select group to gain a tax advantage. They increase the cost of dental treatment by approximately the same amount as the dental service corporation. These plans do not restrict the professional freedom of the dentist and they do not include the features for which most dental service corporations are criticized: fixed fees, pro-rating of fees, prior authorization, third party re-diagnosis, a substantial initial contribution and a continuing financial obligation by the profession. They provide a free choice of dentist. These private plans have a limited, temporary value but they fail to benefit that segment of the population most in need of help.

A comprehensive government plan has the advantage of providing dental services for those who could

not otherwise obtain them — also the disadvantages of raising the cost of this service because of the administrative superstructure, and (as exists in other countries) of hampering the dentist by delaying and restrictive administrative procedures.

Fortunately, the government has a very attractive alternative to a comprehensive dental plan (administered by itself) for the provision of dental care to the public. A graduated tax rebate or reimbursement could be allowed for dental expenses, with the government paying the expenses of very low income groups outright. A plan such as this would aid those who can least afford treatment, with the subsidization diminishing in proportion to the patient's ability to pay. It has the further advantage of avoiding an additional administrative set-up, with its attendant expenses, since a suitable mechanism (the national revenue department) already exists. The cost of dental care would not be increased significantly, but its availability would be increased. Variations of this plan have been adopted for medical or dental plans in Norway, France, Sweden, Switzerland and Australia,¹ and it is being advocated by the American Medical Association as "Medicred."

This type of plan, in contrast to the professionally or commercially sponsored ones, has the advantage of

not raising the cost of dental treatment; of subsidizing most, those who need it most; of not benefiting one group at the expense of another; of allowing the dentist to exercise his professional skill and judgement as to what is best for the patient; of providing dental care not only to employed groups but to the aged and to employed or unemployed individuals who perhaps previously could not afford it; and the very important advantage of allowing the patient to participate in decisions where his own health and money are concerned. Without this, there is no appreciation of the treatment nor the incentive for proper personal care of his mouth.

The course of history is alterable. Guidance can change direction for the better within broad trends. Our profession must be active in this respect. After surveying the alternatives, we must seize the initiative and vigorously support that course of action which is in the best interest of both the public and the profession.

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Toronto 12, Ont*

1 Canada. Royal Commission on Health Services. 1964 — Volume 1. Ottawa, Queen's Printer, 1964.

Dental service corporation — now!

The dental service corporation philosophy has been debated by professional regulatory bodies in Canada for almost two decades. Certainly dentists must now be cognizant of the public's growing concern for the provision of comprehensive dental health care. No longer can we luxuriate in pure rhetoric alone over the pros and cons of the professionally sponsored prepaid dental insurance concept. Four considerations — humanitarian, professional, economic and political — dictate action now.

Humanitarian aspect — Our society was built on the principle of self-sufficiency, each man being responsible for his own welfare to the extent of his abilities and ambitions. Though our profession is perhaps one of the last bastions of that principle, it is self-evident that the concept of self-sufficiency is no longer in keeping with present-day thinking. A reasonable and humane compromise must therefore be sought. A professionally sponsored mechanism must be provided through which all segments of the population — those who require assistance as well as those who do not — may protect themselves against the exigencies of predictable and unpredictable dental treatment costs.

Professional aspect — The interests of the dental profession are similar to those of the public in general — namely to make better dental health care readily available to more people at reasonable cost.

It can be postulated that those most intimately involved with the intricacies of treatment services should also be most knowledgeable in devising the best manner for satisfactory delivery of these services to the public. A dental plan which is professionally designed, oriented and administered by a non-profit dental organization must surely be a more desirable commodity from both consumer and purveyor standpoints than one developed by either of the two alternative mechanisms — commercial or government insurance.

A plan devised by a third party whose interests diverge from those of the consumers and purveyors of treatment necessarily introduces factors, such as profit motives or political considerations, which are not always in the best interest of the two primary parties. These considerations tend to diminish the high professional status that is integral to the professionally sponsored plan.

Economic aspect — Two facets are involved here: the inherent economics of prepaid dental plans and the economics of the market place.

In dental service corporation plans, contractual arrangements are made between consumers (or their agents) on one hand and the profession on the other. The corporation serves as an instrument of the profession designed primarily to facilitate interchange between the two primary parties. When non-professional third parties assume contractual and financial

responsibility for treatment services, however, a very real danger arises with respect to the eventual effect and control that may be exerted over the very nature of the treatment service itself. Irrespective of commercial or political considerations, a third party-designed plan exerts effective influence — through control of the availability of dollars for any given treatment — over the very nature of the service which dentists can provide and patients can receive.

As the profession's vehicle for offering prepaid dental services to the public, dental service corporations must be prepared to enter the market place immediately. Because of the recent loss of the lucrative medical insurance field, commercial carriers are moving rapidly into the large and relatively untapped field of prepaid dentistry, offering dental plans as an entity or as part of an insurance package. Since the profession is seldom, if ever, consulted about the formulation of these plans, their design suffers as a result. The profession is then caught in the middle between the consumer and the carrier — a very uncomfortable situation.

Political aspect — Statements relative to publicly funded dental coverage are made with increasing frequency by persons in public office or aspiring to such office.

It is recognized that in today's social climate government has a legitimate responsibility in the dental health field in such matters of public concern as dental health education, preventive health, abnormal health situations, catastrophic dental problems, etc. It is re-

cognized, too, that government should assist in providing treatment for those who are unable to provide for themselves — persons in the social assistance and partially dependent categories, for example.

With the consolidation of medicare now in sight, only the most naive could expect government to ignore consideration of the provision of comprehensive dental care. It is up to the profession to provide a practical viable alternative through its dental service corporations. At best, service corporations can serve the public well; at the very least, they provide a well designed functioning model should government intervention become inevitable.

Almost six years ago the Royal Commission on Health Services recommended that the highest possible health level for all should become "a primary objective of national policy." The Commission's stated goal for universal good health (including dental health) for all Canadians cannot be faulted. This, after all, is the objective to which the dental profession, too, is dedicated.

The profession has devised the dental service corporation as an instrument to help achieve this goal in the realm of treatment service. From all considerations it is imperative that Canadian dentistry provide prepaid dental insurance through its service corporations without further delay.

M. J. Lipkind, DDS
President, Alberta Dental Service Corporation
403 Medical Centre, Calgary 2, Alta

Tax Reform — I seek enlightenment on the following: On Valuation Day will it be necessary to declare one's dental work, particularly if it involves gold?

In view of many of Finance Minister Edgar Benson's white paper proposals, this seems entirely probable. As I see it, a list of one's possessions worth \$500 or more might easily be interpreted as including dental work. After all, what could be more surely in one's possession than one's teeth?

As a further complication, what about those who choose to outfit their teeth with embedded diamonds, or rubies? There aren't many such bizarre types, but there are *some* and it doesn't seem reasonable to me that a man should escape a capital gains tax just because he chooses to carry

the family jewels in his mouth instead of elsewhere. Certainly it's not my idea of a Just Society.

If a man possessed \$500 worth of dental work on Valuation Day and the cost of such work increased to \$800 five years later (due to further inflation brought on by government spending) isn't it logical to claim that he has made a capital gain of \$300? I believe that Mr. Benson would view it in this light anyway. On this basis the government would be obliged to tell a taxpayer that it proposed to extract either a tax or his teeth.

I suppose you could call it "putting teeth into our tax laws." — Eric Adams, Toronto (Letter to the Editor, *Globe and Mail*).

White paper harms professionals and those they serve, says CDA

Certain white paper proposals on tax reform will have "a detrimental effect" on the dental profession and many of its patients, says a brief submitted to Ottawa by the Canadian Dental Association.

Officials of the CDA appeared before the Senate Committee on Banking, Trade and Commerce on April 15. They included: W. J. Spence, Toronto, CDA president-elect; Henri Brouillet, Montreal, past president; H. N. Beach, Ottawa, chairman of the Subcommittee on Taxation; W. G. McIntosh, Toronto, executive director; and Mr. M. L. O'Brien, Toronto, the Association's tax adviser.

Hardship on taxpayers

Though the 34 page brief dealt mainly with the needs of dentists, dental students and other profes-

sionals, it did not overlook the hardships that would be borne by other sectors of society.

The CDA recommended that the government give all taxpayers a break by reducing the existing 3 per cent qualification limit on health expenses.

On personal deductions, it proposed that low-income earners be treated fairly, by allowing a flat amount to be creditable against tax payable, rather than increasing exemptions as the government proposes.

"Increased exemptions have the effect of granting to high-income taxpayers a greater tax exemption than to low-income taxpayers," said the brief.

"For example, at the 50 per cent tax level, a \$400 increase in exemption means a \$200 reduction of tax, whereas at the 21 per cent level the saving is only \$84. Where a taxpayer now has income of less than

\$1,100 the additional exemption is of no particular benefit to him."

However, a flat amount creditable would give equal tax exemption to high- and low-income earners. It would relieve or reduce income tax payable by 3,750,000 taxpayers — and not slash government revenue which would otherwise be recouped by raising taxes on the middle-income group.

Loss of dentists to USA

The national association called on the government to review those "tax burdens imposed on middle-income taxpayers in the United States and Canada . . . to avoid the loss of qualified dentists to the US for tax reasons."

There is a shortage of dentists in the US where earnings are higher and recent changes there have provided more incentive for middle-income earners, said the brief.

The government said it intended to reconsider the family unit tax return basis after basic reforms were in effect. The Association urged joint filing by husband and wife, as in the US, which could reduce taxes and encourage wives to work.

No arbitrary limits on child expenses should be imposed, said the Association. The deductions should be "generally limited by a consideration of the reasonableness of the expenses when compared to the amount of income earned by the wife."

The white paper suggested a \$500 limit on each child under 14 or \$2,000 per family.

Propose income averaging

"All taxpayers should be permitted to average their incomes on the same basis when fluctuations occur because of extraordinary events or . . . should be permitted to make payments into registered retirement savings plans in the same manner as authors and professional athletes. . . ."

The government proposed a "complicated formula" for averaging while retaining the present formula for farmers and fishermen with possible extension for occupations such as authors or athletes.

The Association asked that a newly graduated dentist be allowed to carry forward some of the substantial

expenses of studying and setting up his practice in the same way as a businessman carries forward business losses. Dentists also want the same tax incentives given to other small businessmen.

The professional has also been caught between uncomfortable laws set by two government levels. Federal law says that a proprietor or partner in an unincorporated business can't deduct wages paid to his wife, as can an incorporated businessman. But provincial laws forbid dentists to incorporate their practices. The CDA wants the federal law changed to allow reasonable deductions.

Oppose accrual accounting

The CDA took an especially strong stand on the government's proposed change of accounting practices for professionals.

The white paper proposes that they report their income on the accrual basis of accounting rather than the existing cash basis.

To pay tax on money not received "is discriminatory and is not in conformity with the government's expressed objective of equity among taxpayers," said the dental association.

Businessmen who pay tax on the accrual basis usually have inventories which they can pledge to the banks as security for loans to pay their tax. A dentist cannot pledge his work-in-progress as loan security and much of this work is difficult to evaluate, said the brief.

The Association gave a comprehensive list of reasons why it opposes the accrual system and why it is against the proposed elimination of deductions on a variety of educational and business expenses.

Said the brief: "The Association has no objection to equitable tax reform, but believes that the dentist should have the same opportunities to provide for his future as does the senior civil servant or executive of a corporation.

"Today these employees are retiring with annual pensions of \$15,000 or more. A dentist must provide for his own fringe benefits and security, and for him to purchase a guaranteed annuity of \$15,000 requires a substantial outlay which he must pay out of "after tax" income." This is aside from the annual maximum which can be paid into a registered retirement savings plan, adds the CDA brief.

Ottawa to Reconsider Entertainment Costs — The government will reconsider proposals contained in the white paper on taxation that entertainment costs no longer be a deductible business expense, Herbert Gray, minister without portfolio, said April 19.

Speaking to a round table discussion sponsored by the Canadian Institute of Public Affairs at York University, Mr. Gray said the government was concerned that businessmen who must entertain should not be penalized under new tax legislation.

But most of his comments emphasized undertakings given by Prime Minister Pierre Trudeau and Finance Minister E. J. Benson that the proposals were not a blueprint of government intentions.

"The public reaction (to the white paper) has been interesting to say the least. There are many that seem to be unwilling to accept the statements of the minister of finance and the prime minister that the proposals were in fact put forward for discussion, and that they are open to modification, even though this is in fact the case.

"Perhaps this is because this concept is so novel and so different from what has gone on before and what is still being used in other connections with respect to tax changes.

"I suppose all this shows that many people are not always immediately willing to accept change even when they would be the first to admit that they were not satisfied with the existing situation." — *Globe and Mail*, Toronto, April 20, 1970.

The Association

Auxiliaries committee proposes new resolution on delegation of duties

The CDA Auxiliary Services Committee, which met at CDA Headquarters March 9-10, has proposed a new resolution on the delegation of duties to dental auxiliaries. The proposed wording is as follows:

"Whereas the services of dental auxiliaries are essential to the efficient delivery of dental health care, and

"Whereas the licensed dentist must assume ultimate responsibility for the welfare of his patients and the competent performance of all dental services rendered at his direction, irrespective of the personnel involved in the delivery of these services, therefore be it

"Resolved that it is the right of the dentist, subject to his licensing authority, to delegate to formally trained auxiliaries over whom he exerts effective supervision and control such duties as do not require the professional knowledge and skill of the dentist, and be it further

"Resolved that it be respectfully recommended to provincial licensing authorities to extend every effort to create such legal environment for the practice of dentistry as will make possible the effective implementation of the above principle."

The resolution has received unanimous support from the Auxiliary Services Committee and the Dental Services Committee.

Another resolution expressed support for giving dental hygienists a voice on provincial dental licensing boards. It urged that the Board of Governors endorse this principle and encourage the provincial licensing boards to give it careful consideration.

CDA protests restrictions on public service TV film clips

The Canadian Dental Association has asked the Canadian Radio-Television Commission to reconsider proposed television regulations which would clas-

sify all non-program content as "advertising material" and limit this material to 12 minutes to the hour.

The proposal, said a CDA brief, would treat public service announcements, such as the CDA's 26 one minute TV film clips, like paid commercial advertising. In effect, this would discourage TV stations from using the film clips when paid advertising is available to fill the maximum 12 minutes of allowable non-program material.

The brief points out that the CDA has a substantial investment in its 26 filmed announcements. The cost of English and French versions of the latest film, *"Close-up on Teeth"* was \$6,715.

It asked the CRTC "to take steps, in whatever changes are made in broadcast regulations, to ensure that television stations may continue to be encouraged to make every reasonable use of non-commercial public service announcements."

National Convention

Alpha Omega reunion set for July 2

The Alpha Omega Fraternity reunion will be held Thursday July 2, not July 3 as shown in the March Journal. The star attraction is a 12:00-2:00 pm reception and luncheon in honour of the international president, Doctor Barnett Frank. Further information may be obtained from Harry Tregobov, 566 Osborne St, Winnipeg.

Essays and clinical lectures set

J. P. Beattie, chairman of the 1970 national convention in Winnipeg, has announced the following details concerning essays and clinical lectures on the general program:

Thursday, July 2 – S. N. Bhaskar, 9:00-12:00 pm: (1) diagnosis and treatment of pulp diseases in general practice; (2) periodontics in general practice. B. F. Dewel, 1:30-2:30 pm: serial extraction

–precautions and prerequisites (Grieve Memorial Lecture).

Friday, July 3 – L. I. Grossman, 9:00-12:00 pm: a practical endodontic technique. Panel, 2:00-5:00 pm: clinical application of basic research.

Saturday, July 4 – Clinical lectures, 9:00-10:00 am. CDA panel, 10:30-12:15 pm: allied dental personnel in Canada. Panel, 2:45-4:30 pm: what's new in dentistry.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on March 31:

Government Bond Fund \$13.885;
Corporate Bond Fund \$15.188;
Common Stock Fund \$23.621.

Total assets (market value) of the plan were \$9,625,052.77.

The following portfolio purchases and sales occurred during the preceding month: bought 2,000 shares Acklands Ltd; 2,000 shares Beaver Lumber; 20,000 shares Chemcell Ltd; 1,500 shares Noranda Mines; 2,000 shares URS Systems; and 6,500 shares Weldwood of Canada; sold 3,000 shares Loew's Theatres Inc.

For further information please write to CDA-sponsored Retirement and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

Former CDA president, J. P. Whyte, dies at 71

CDA Past President James P. Whyte of Swift Current, Sask, died March 30 at the age of 71. The former CDA executive had served for 10 years on the Board of Governors before acceding to the Association's highest office in 1960.

A 1921 graduate of the Royal College of Dental Surgeons of Ontario, Doctor Whyte was formerly president of the Swift Current Dental Society and the

College of Dental Surgeons of Saskatchewan as well as the International College of Dentists (Canadian Section). He was also a life member of the College of Dental Surgeons of Saskatchewan and the Royal Canadian Armoured Corps Association.



J. P. Whyte

In 1954, following World War II, Doctor Whyte was appointed deputy director of dental services at Canadian Military Headquarters in London, England. In 1958 he was honoured by Her Majesty the Queen with appointment as Queen's Honorary Dental Surgeon.

Self-governing professions under scrutiny in Alberta

Alberta's legislature intends to review laws and regulations governing the professions and occupations in that province.

A recent resolution directs the Assembly's law committee to (1) review existing legislation, (2) examine policies and principles underlying such legislation, particularly for self-governing professions, and (3) hear representations from affected groups.

Purpose of the study, says the minister of health, is to look into the possibility of eliminating some acts covering auxiliaries and have them regulated instead under by-laws and regulations of self-governing professions.

Computers will enhance health of Canadians

Industrial engineering and computers will contribute importantly to the more effective use of health resources in Canada, according to the Hon. John Munro, Minister of National Health and Welfare.

Mr. Munro was addressing a national symposium on computer applications in the health field, March 18. He referred to medicare, new developments in public health, environmental control, and to greater emphasis on recreational and physical activity as contributing to the development and maintenance of personal health for all Canadians, with engineers and computers assisting in making these resources effectual.

"Computing systems," he said, "can contribute toward providing better quality of services to the Canadian resident."

The Minister declared that health may become the second largest employer of labour in Canada. "Even now, 70 per cent of health costs are fees, salaries and wages."

"I am hopeful," he said, "that the supply and demand relationships and cooperative efforts between the people in the health services field and the computer industry will lead to improved cost-benefit ratios."

He called for programs to widen public acceptance of computers in the health field. "Computer systems have to prove themselves as something other than impersonal bureaucratic tools which further remove the human element from medical treatment."

International Items

American Dental Association contemplates \$20 dues increase

The American Dental Association's Board of Trustees has proposed an increase in membership dues of \$20. The recommendation will be considered at the ADA's annual session in November and, if approved, will go into effect in 1971.

The board cited expanded and new programs and the rising cost of doing business as urgent reasons for the dues increase. It noted that inflation alone was increasing the association's salary budget 5 per cent each year—simply to meet the rise in living costs. This does not include merit increases, normal staff additions or the economic realities of competing in a tightening labour market.

Canadians invited to Miami winter meeting

Canadian dentists have been invited to the Miami winter meeting, January 14-17, 1971.

Highlights of the meeting will be an all-day panel on occlusion featuring Morton Amsterdam, Philadelphia; P. E. Dawson, St. Petersburg, Florida; L. D. Pankey, Coral Gables, Florida; and P. K. Thomas, Beverly Hills, California. Other featured clinicians are John Anderson, Gerard Courtade, Herman Corn, D. Walter Cohen, R. W. Phillips and Harold Stanley.

Convention headquarters will be at the Deauville Hotel, Miami Beach.

For further information, please write to Barbara Simms, Executive Director, 2 South East 13th St, Miami, Florida 33131, USA.

Implant course in Paris Nov 15-19

The International Research Centre for Implants in Dentistry has announced a five day limited attendance course on "Implantology" November 15-19.

The course, to be held at the Lariboisière Hospital, Paris, will cover the entire range of implant techniques.

The enrolment fee is payable in two instalments: an immediate deposit of \$100 to reserve admission, and a further \$160 payable on arrival. Early enrolment is advisable and applications may be sent to Raphael Chérchève, 5 avenue de l'Opéra, Paris, France.

Dental Organizations

Quebec college dues rise to \$150

The licence fee of the College of Dental Surgeons of the Province of Quebec is to rise from \$100 to \$150 on July 1, according to R. M. LeBlanc, CDSPQ registrar.

The move, says Dr. LeBlanc, is necessitated by expanded services in the fields of continuing education, dental assistant training, hospital accreditation and mediation. Also required are additional funds for administration, staff expansion and enlarged quarters for the college secretariat. The CDSPQ will also increase its annual grant to the Canadian Dental Association from \$40 to \$55.

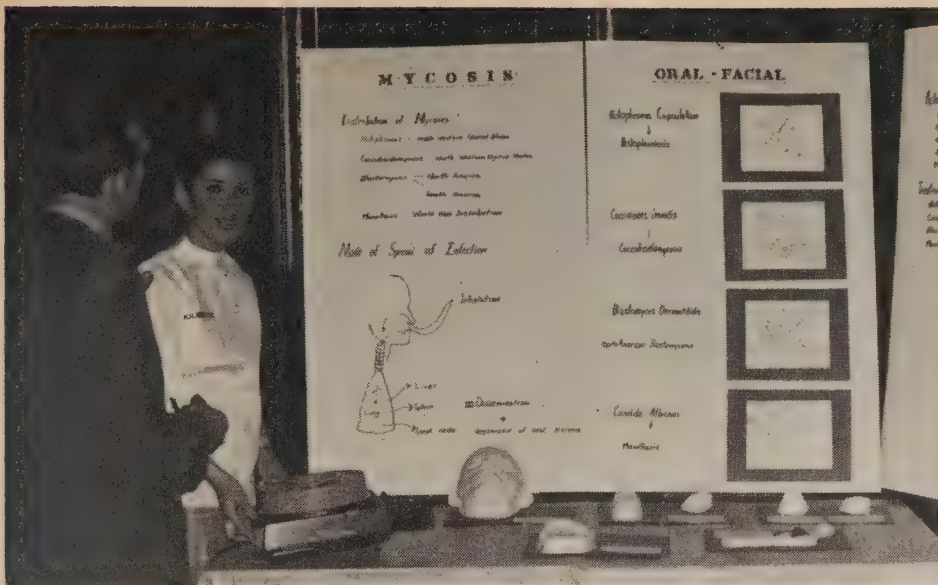
BC college modifies policy on licensing exams

In future, National Dental Examining Board certificate holders who apply within two years of graduation from an accredited Canadian dental school will be eligible for registration and licensure in British Columbia without further examination.

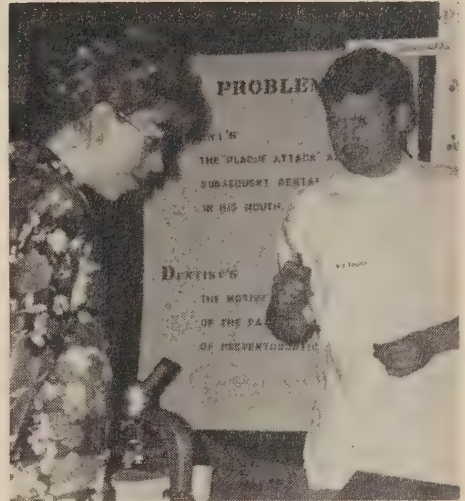
The decision, announced by the BC College of Dental Surgeons March 17, modifies its previous policy governing clinical examinations for dentists who apply for registration in British Columbia.

Thunder Bay dentists elect new officers

D. A. C. Johnson, Port Arthur, recently succeeded S. Bresalier, Fort William, as president of the Thunder Bay Dental Association. Also named to the 1970 executive were: D. I. LeCocq, Fort William, vice-president; J. W. Crooks, Port Arthur, treasurer; E. Imperius, Port Arthur, secretary; B. M. Saunders, Fort



Scenes from McGill University's first student table clinic competition held March 5. Above right: third year students Minna and Howard Stein receive congratulations from Doctor Araceli Ortiz who organized the contest. Mrs. Stein will compete against winners of table clinics from other dental schools at the American Dental Association's annual meeting in Las Vegas next November. Above left: Mrs. Stein shows her table clinic to Charles Smith, a fourth year student, whose own clinic won the top award.



William, dental public health officer; and Marlene Bloom, Port Arthur, public relations officer.

Dental Education

Two Canadians at US research-education conference

Two Canadian dentists, J. F. Eisner and Milton Houpt, participated in the initial session of a research training program in Denver and Estes Park, Colorado, last summer. Purpose of the meeting, held in July and August 1969, was to acquaint participants with contemporary techniques in dental education and research.

Doctor Eisner is interested in curriculum development and in-service teacher training programs. Doctor Houpt has a special interest in developing a reliable computerized grading system.

The two dentists are pursuing PhD programs—Doctor Eisner at the University of Michigan, Doctor Houpt at the University of Pittsburgh. Both will participate in further sessions of the research program until it terminates in December of this year.

Student Affairs

McGill stages first table clinic competition

Charles E. Smith, a fourth year dental student, emerged with the top award in

a McGill University table clinic competition March 5. Another winner was Minna Stein, a third year student. Mrs. Stein will represent her fellow students at the American Dental Association's annual meeting in Las Vegas next November where she will compete against winners of table clinics from other dental schools.

Mr. Smith demonstrated the structure and three dimensional organization of rat incisor enamel. His clinic summarized the techniques and results of an experiment which he conducted in the Department of Anatomy for the past two years. The work was supported by a grant from the Quebec Medical Research Council and supervised by Doctor H. Warshawsky.

Mr. Smith is ineligible for participation at the ADA contest because he graduates this year. He intends to pursue full-time graduate studies leading to a PhD.

Mrs. Stein's clinic dealt with orofacial manifestations of mycosis. Her husband, Howard Stein, also a third year student, competed against her by presenting a clinic on cold sterilization in general practice.

The table clinics, organized by Dr. Araceli Ortiz, are designed to test the students' originality and creativity. The competition was supported by local dental supply firms. The judges were: Roger Coulombe, representing the College of Dental Surgeons of the Province of Quebec; Melvyn Shevell, for the Alpha Omega Fraternity and Mount Royal Dental Society; and W. J. John-

ston, of the dental faculty of McGill University.

Royal Canadian Dental Corps

Appointment of Brig.-Gen. E. M. Wansbrough extended for one year

The appointment of Brig.-Gen. E. M. Wansbrough as colonel commandant of



E. M. Wansbrough

the Royal Canadian Dental Corps has been prolonged for another year. The decision was announced by Gen. F. R. Sharp, Chief of the Defence Staff. It means that Gen. Wansbrough will continue until January 15, 1971, in the office he has held since 1965.

The colonel commandant acts in an advisory capacity to Canadian Forces Headquarters, the RCDC Association and unit commanders of the Corps. He also advises on the administration of Corps funds and property and Corps charities. Additionally, he fosters close liaison between regular and militia units of the Corps and keeps in touch with allied corps.

Research

Toronto Hospital for Sick Children plans research on facial deformities

Every year in Ontario, about 250 children are born with severe facial deformities including cleft lip and palate.

The Toronto Hospital for Sick Children plans to find out why and has been given a grant of \$72,000 by the US Department of Health, Education and Welfare for its research.

The grant, spread over a three year period, goes to the hospital's maxillo-facial clinic which was set up in 1955.

R. B. Ross, director of orthodontics at the hospital's dental department, says the clinic, one of four in North America, got the grant partly because of its patient load.

Because of the hospital's reputation, he says children come from all over Ontario. He estimates that the clinic, in addition to getting an estimated 25 new patients a year, will also have a backlog of 400-500 unreported cases. "We plan to seek them out," he says.

Many of the deformities are congenital, but some are caused by accidents. It is the congenital abnormalities that the grant is for. The researchers will try to seek the major causes of these defects. They will study facial growth to find out when is the best time to operate for a particular ailment.

IADR conference hears reports on caries immunization and tooth implants

A new immunization technique which has resulted in a 67 per cent decay reduction in animals was described to the International Association for Dental Research in New York City March 16-19.

The report, by Abdul Gaffar of Piscataway, New Jersey, told how the technique produces antibodies in the saliva and blood stream against cariogenic bacteria. Doctor Gaffar cautioned, however, that although the findings in experimental animals are encouraging, a great deal further experimentation is necessary before an immunization approach can be considered safe, effective and practical for the control of human caries.

F. A. Young, Jr, of Clemson, South Carolina, described a ceramic tooth root which can be surgically implanted in the jawbone.

"We are developing a ceramic material suitable for shaping and implantation as an artificial tooth root upon which a conventional dental crown can be placed," Doctor Young explained.

The experiments are conducted on animals but Doctor Young predicts that the method may become available for human transplants within the next two years.

Long-term success with plastic tooth implants in animals may indicate that dental researchers are moving closer toward eventual successful implantation of plastic teeth in humans, according to S. M. Kennedy, Boston.

Thus far, six months after implantation, the majority of the implanted replicas are firmly in place in monkeys and the gums and supporting bone appear healthy, he said.

Doctor Kennedy attributed the successful implantation to careful removal of the natural teeth, detailed duplication of the natural tooth in plastic, splinting of the plastic implants to adjoining natural teeth, and especially to the use of a soft diet that enables the plastic implant to become firmly fixed to the supporting bone.

Other research advances reported were:

—A new chairside test involving a sample of tear fluid which could be used as a possible screening method for dentists who detect a diabetic patient;

—A bone grafting technique involving a metal implant to restore lost jawbone which may bring relief to problem denture patients; and

—A new technique of identifying blood groups through the examination of powdered human teeth which may greatly aid in the identification of plane crash victims.

New method may prolong survival of tooth transplants

Scientists studying tooth transplant rejections have been able to prolong survival by altering the donor tooth. Their investigations indicate that transplants will function longer if mature teeth are used and if all soft tissues have been removed from the pulp chamber and from the root surface.

L. B. Shulman, assistant clinical professor at the Harvard School of Dental Medicine, has found that removing soft tissue is beneficial because these tissues cause a greater immune reaction than do the tooth's hard, calcified tissues.

Doctor Shulman thinks that, despite eventual rejection, tooth transplants would be practical if they could be made to last for an average of eight years instead of the four year average survival expected today.

In laboratory tests, Doctor Shulman reported, practically all the soft tissue on the tooth's surface can be removed by soaking the tooth first in hyaluronidase and then in collagenase. This process does not appear to damage the cementum. The pulp also is removed by standard dental procedures just after the tooth is extracted. Before it is transplanted, the tooth is immersed in a strong fluoride solution to increase its resistance to dissolution by the rejection process.

Ultimately, however, the tooth is resorbed. Using monkeys as the research animals, Doctor Shulman compared the fate of teeth moved from one socket to another in the same animal (autografts) with that of teeth transplanted from one monkey to another (allografts). Successful autografts become attached by gum fibres much like natural teeth, but allografts are held fast by bony tissue. As the body cells attack the root of the foreign tooth, gradually consuming it, bone grows in its place. This rejection process causes no pain or harmful side effects. The tooth remains quite firm and functional until just before the root is completely resorbed.

Calcified tissues symposium in The Netherlands Nov 10-12

Catholic University, Nijmegen, The Netherlands, will hold an international symposium on calcified tissues, dental and surgical materials, and tissue-material interactions November 10-12.

Participants will examine available information about structural, chemical and physical properties of calcified tissues. Their conclusions will serve as a basis for (1) understanding tissue-material interactions, (2) improving commercial dental and surgical materials, (3) developing new dental and surgical materials (especially adhesives), (4) drafting guidelines for biological test-

ing, and (5) establishing criteria for clinical evaluation of dental and surgical materials.

Invited speakers will come from Canada, Denmark, Germany, Great Britain, The Netherlands, Switzerland and the United States.

Advance registration is requested. For information and registration forms write to F. C. N. Driessens, Department of Dental Materials, Catholic University, Erasmuslaan 1, Nijmegen, The Netherlands.

Leucoplakia linked to reverse smoking

The Indian practice of reverse smoking — placing the lighted end of a cigar in the mouth to prevent high winds from blowing it out — is related to leucoplakia and oral cancer, according to F. S. Mehta, Bombay. The Indian scientist is head of the Basic Dental Research Unit at the Tata Institute of Fundamental Research, Bombay. Together with J. J. Pindborg of Copenhagen, he is conducting an epidemiological study of over 59,000 Indian villagers. They seek to gain additional insight into the causes of oral cancer.

Because known incidences of cancer are related to different methods of tobacco use, the different local customs were surveyed. In addition to reverse smoking, habits studied include the conventional use of pipes or cigarettes, and the storing and chewing of a quid of areca nut, betel leaves, lime and tobacco.

In two geographical areas canvassed, tobacco quids are rested on the tongue, and tobacco and lime quids are stored behind the lower lip. The chief oral conditions found were: homogeneous and speckled leucoplakia, leukokeratosis, nicotina palati, oral submucous fibrosis, pipe smoker's white patches where the pipe stem habitually rests in the corner of the mouth or between the lips, and papillary atrophy of the tongue.

Nine cases of oral cancer were found in the area where cigars are smoked in reverse. Twelve cases were found where the tendency is to store tobacco materials in the mouth, and were associated with the tendency of submucous fibrosis to convert to cancer. Three cases were found among the pipe and cigarette smokers. None were found in the other areas surveyed.

Leucoplakia was commonest among reverse smokers, high among pipe smokers, somewhat less common among cigarette smokers and people with mixed habits. It is far less common among chewers and practically unknown among non-users of tobacco. Tongue cancer was highest in the area where villagers usually place tobacco quids on the tongue.

A follow-up investigation is expected

to show how apparently harmless spots change into malignancies and provide additional clues to causes.

Economics

Ontario signs first dentist for north

The Ontario Department of Health has signed up its first dentist under a scheme to extend medical and dental services to remote communities.

J. J. Pogany, Toronto, a graduate of the University of Melbourne, Australia, has established practice in Kapuskasing, 600 miles north of Toronto. The Ontario health department has designated 28 similar areas as needing dentists and another 20 areas are under review.

Under the guaranteed annual income plan for practitioners announced last July, the province will guarantee dentists an annual income of \$22,000. If their earnings do not reach the guarantee, the province will subsidize them to that level. The dentists may retain anything they earn above \$22,000.

Under an alternative scheme, the province does not guarantee income, but will provide outright grants of up to \$14,000 over four years to help dentists open offices and establish practices.

Twenty-five dentists will be available for service in remote areas this spring. Included in this number are eight students who are on bursaries this year, three dentists who intend to relocate, and 14 Czech dentists undergoing retraining at the University of Western Ontario.

Manitoba legislative committee advocates licensure of mechanics

Dental mechanics should be licensed, according to the report of a committee of the Manitoba legislature. Published March 24, it called for new legislation dealing with all aspects of dentistry.

The committee proposed enactment of a new four part bill, to be known as the Dental Services Act. The first part would deal with the dental profession; the other three parts would apply to dental technicians, hygienists and mechanics.

On the mechanics issue, which had been referred to the committee by the legislature, the committee recommended that they be licensed as craftsmen.

Dental mechanics should be restricted to complete dentures where there are no live teeth. They should be prohibited from giving professional advice to anyone with live teeth, said the report.

The committee would require an oral

certificate, signed by a physician or a dentist, before a mechanic may treat a patient. It would also place a prohibition on the title "denturist," restrict advertising, and require adherence to an ethical code. Its report also recommended "thorough inspection under government control of sanitation and compliance with legislation."

The report calls for a committee representing the health department, the Faculty of Dentistry and the dental mechanics to establish a training program for dental mechanics. Present dental mechanics and technicians would be given one year to qualify as from a date to be set by legislation or regulations.

Dental mechanics would have to issue official receipts for work done on forms approved by the government. Enforcement and licensing would be carried out by the health department.

Saskatchewan college backs fee restraint

The Saskatchewan College of Dental Surgeons will not increase its fee schedule this year. The college's current fee schedule is two years old.

The decision, taken at the March 13-14 meeting of the SCDS Council, came in response to a CDA Executive Council recommendation urging provincial dental organizations to limit or postpone fee schedule increases during 1970.

The CDA Council appealed for voluntary fee restraint to help curb inflation.

Fluoridation

CDA asks Ottawa to back fluoridation's 25th anniversary

CDA Executive Director W. G. McIntosh has invited the Minister of National Health and Welfare to issue a "ringing endorsement" on the 25th anniversary of inauguration of fluoridation in Canada.

Brantford, Ont, was the first municipality in Canada and the third in the world with controlled fluoridation. It began to fluoridate its water on June 20, 1945.

In a letter to the Hon. J. Munro, Doctor McIntosh praised the Canadian delegation which co-sponsored a fluoridation resolution adopted last year by the 22nd Assembly of the World Health Organization.

"The contents of this important resolution should be better known to the people of Canada, particularly those responsible for the implementation of such public health measures as water fluoridation," said Doctor McIntosh.

"One of the most effective ways to help accomplish this objective would be for you to issue a public statement on the subject," the CDA executive said. He suggested: "A statement from the Minister of National Health and Welfare, which gave a ringing endorsement of the principle of fluoridation, would carry great weight. We are sure it would provide much of the leadership needed for further progress of this important measure."

Three US-Canada border towns to fluoridate

Three communities on the New Brunswick-Maine portion of the international border have agreed to fluoridate their common water supply. They are St. Stephen, New Brunswick, which sells water to the city of Calais, Maine, which in turn resells water to Milltown, New Brunswick.

Calais has been on record for some time as firmly endorsing fluoridation and the Maine Department of Public Health has offered to bear the expense of the required equipment. Installation costs will be covered by the New Brunswick Department of Health. This leaves maintenance costs to be borne by St. Stephen.

Public Health

BC program termed a success

Dental caries in British Columbia children between the ages of seven and 15 has decreased by 23 per cent, according to Frank McCombie, the province's dental director. In 1959, the average number of permanent teeth attacked by decay was 6.2; now it is 4.8 teeth per child. In the past 10 years the proportion of children with no untreated carious teeth has more than doubled, from 15.5 to 35.6 per cent. For 15 year olds, the ratio with no untreated carious teeth has more than trebled, from 16.4 to 52.8 per cent. Doctor McCombie attributes these results to the work done by members of the Division of Preventive Dentistry and cooperation from the province's private practitioners.

Communities without practising dentists are served by dental externs, says Doctor McCombie. This program started eight years ago. Last year eight young dentists visited more than 50 communities. Using lightweight portable equipment, they provided complete dental treatment to 2,500 young children.

Dental extern programs are organized by the communities concerned, the parents paying a nominal fee for each child treated. The balance of cost is shared between the provincial health branch and the community. The externs treat older children and adults too, on a fee-for-service basis.

Another successful program, says Doctor McCombie, provides community preventive dental services to children in rural areas. In each community involved the program is organized and encouraged by the BC Health Branch and sponsored by a community organization. The success of these programs, according to Doctor McCombie, stems from their acceptance by local private practitioners.

Four years ago these programs were given a new look by the introduction of three year old birthday cards. The card, mailed by the health unit to the child when he attains his third birthday, invites the parents to take him to the family dentist for a free examination, radiographs, topical fluoride applications and counselling. For these services the dentist receives a modest fee through the health unit. Last year these programs operated in 38 school districts in which there were resident dentists. Acceptance of the service has risen to over 80 per cent in four of these districts.

Doctor McCombie reports that one of his regional dental consultants, A. S. Gray, is pursuing graduate studies at the University of Montreal in growth and development of the oral cavity and diseases of the soft tissues. Upon return to duty, Doctor Gray is expected to launch a pilot program for the prevention of malocclusion and periodontal disease.

Dr. Currey, former St. Catharines MOH, dies

D. V. Currey, former medical health officer of the St. Catharines and Lincoln County Health Unit in Ontario, died in St. Catharines, March 8, at the age of 84.

A staunch proponent of water fluoridation and other dental public health measures, Doctor Currey was president of the Ontario Public Health Association in 1955.

His voice was known to thousands for his weekly radio broadcasts on health which began over a St. Catharines radio station in 1934. Doctor Currey also wrote a weekly health column for the St. Catharines *Standard*. Neither the column nor the radio talk were ever missed for one week until ill health forced Doctor Currey to slow down this year. Even his last column of March 10

dealt with care of children's teeth and water fluoridation.

In a letter to the editor of the *Standard*, Ontario Dental Association President-elect Ivan Hrabowsky praised Doctor Currey "for spreading the facts about dental public health measures and for all he has done to improve the dental health of our community."

Awards and Appointments

Dentist **L. F. Matthews** is the mayor of Swan River, Man. A 1954 graduate of the University of Toronto, Doctor Matthews has a long record of community service to the local hospital board and ambulance committee, the regional library committee, Swan River Water and Sewer Utility and Swan River Council.



L. F. Matthews

Deaths

Downer, John Harry. Toronto. Royal College of Dental Surgeons of Ontario, 1924. 5-3-70. Survived by Emily (wife); James Alan (son); Mrs. K. R. Ellinger (daughter); Jimmie and Mary Beth Downer and Richard and Peter Ellinger (grandchildren).

Gold, Maxwell. 84. Montreal. McGill University, 1913. 1-3-70.

O'Brien, Emmett Joseph. 74. Toronto. Royal College of Dental Surgeons of Ontario, 1922. 17-3-70. Survived by Mrs. D. A. Brebner, Mrs. P. Hennessy and Sister St. Fergus (sisters).

Whyte, James Patterson. 71. Swift Current, Sask. Royal College of Dental Surgeons of Ontario, 1921. 30-3-70. Survived by Gladys (wife); Michael and Donald (sons); Mary (daughter); and three brothers and two sisters. Associate member CDA.

Zimmerman, George Foster. 79. Toronto. Royal College of Dental Surgeons of Ontario, 1914. 26-3-70. Survived by Evelyn (wife); Paul and Douglas (sons); and Mrs. R. H. Lowry (daughter).

L'Association

Le Comité des services auxiliaires propose une nouvelle résolution sur la délégation du travail

Le Comité des services auxiliaires de l'ADC qui s'est réuni les 9 et 10 mars au siège de l'ADC a proposé une nouvelle résolution sur la délégation des tâches aux auxiliaires, formulée comme suit:

"Attendu que le dentiste licencié doit assumer la responsabilité finale du bien-être de ses patients ainsi que l'accomplissement satisfaisant de tous les services dentaires rendus sur son ordre, quel que soit le personnel engagé à rendre ces services, en conséquence, il est

"Résolu que le dentiste a le droit, sous réserve de l'approbation de l'organisme provincial de contrôle, de déléguer à des auxiliaires dûment formés sur lesquelles il exerce une surveillance et une direction efficaces, des tâches telles qu'elles n'exigent pas les connaissances et l'aptitude du dentiste, et il est également

"Résolu qu'il soit respectueusement recommandé aux autorités provinciales de contrôle de ne négliger aucun effort pour créer une ambiance juridique pour l'exercice de l'art dentaire telle que la mise en pratique du principe ci-dessus sera possible."

La résolution a reçu l'appui unanime du Comité des services auxiliaires et du Comité des services dentaires.

Une autre résolution a été prise en faveur de l'octroi d'une voix aux hygiénistes dans les bureaux provinciaux de licence. Elle recommande au Bureau des Gouverneurs d'appuyer ce principe et d'encourager les bureaux provinciaux de chirurgie dentaire à le prendre sérieusement en considération.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Den-

taire Canadienne étaient les suivantes au 31 mars:

Fonds d'obligations gouvernementales \$13.885;

Fonds d'obligations corporatives \$15.188;

Fonds d'actions ordinaires \$23.621.
L'avoir total (valeur marchande) du régime se montait à \$9,625,052.77.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 2,000 actions de Acklands Ltd; 2,000 actions de Beaver Lumber; 20,000 actions de Chemcell Ltd; 1,500 actions de Noranda Mines; 2,000 actions de URS Systems; et 6,500 actions de Weldwood of Canada; vente 3,000 actions de Loew's Theatres Inc.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Fusion de deux fonds du régime de retraite de l'ADC

Les fonds d'obligations du gouvernement et des corporations du Régime d'épargne-retraite de l'ADC seront fusionnés en un seul fonds à revenu fixe. Le Comité des assurances a pris cette décision lors de la réunion des 2 et 3 mars au siège social de l'ADC. Le troisième fonds du régime, le fonds d'actions ordinaires, n'est pas modifié. La valeur de l'unité des fonds est publiée chaque mois dans le Journal.

Le comité étudiera également la possibilité d'organiser une assurance qui défraierait les frais médicaux et hospitaliers majeurs encourus par les membres de l'ADC dans toutes les provinces. Seul l'Ontario possède un tel régime à présent.

Le Canada

Examen des professions autonomes au parlement albertain

Le parlement de l'Alberta s'apprête à réviser les lois et règlements régissant

les professions et occupations dans cette province.

Une résolution récente charge le comité législatif de l'Assemblée de (1) passer en revue la législation existante, (2) examiner les politiques et principes sur lesquels elle s'appuie, surtout pour les professions qui se gouvernent elles-mêmes et (3) entendre des représentants des groupes concernés.

Selon le ministre de la santé, l'étude a pour but de voir s'il est possible de supprimer certaines lois sur les auxiliaires et de placer ceux-ci sous les règlements et dispositions des professions libérales autonomes.

Chronique internationale

Crise grave aux E.-U.: l'insuffisance des effectifs dentaires

Lors d'une conférence au siège de l'Association Dentaire Américaine, en février dernier, il a été révélé que la dentisterie américaine se trouvait "en plein état de crise". Le conférencier était le Dr J. S. Zapp, omnipraticien de Portland, Oregon, récemment nommé adjoint spécial pour les affaires dentaires et sous-secrétaire adjoint intérimaire pour les effectifs de santé au Département de la Santé, de l'Éducation et du Bien-être Social des E.-U.

Il a expliqué qu'il existe une crise de personnel: "Les effectifs professionnels sont insuffisants et mal répartis alors que la demande de service s'élève sans cesse. Malgré l'amélioration apportée par les programmes d'expansion commandités par le gouvernement fédéral, les possibilités de traitement et d'enseignement sont insuffisantes et le prix de revient de la formation et du traitement augmente à un taux sans précédent".

Le Dr Zapp a fait remarquer que selon les experts, les effectifs de la dentisterie américaine devraient être doublés d'ici 1980, ce qui représente 168,000 praticiens dentaires à trouver en 10 ans.

Comme remèdes au problème des effectifs, le Dr Zapp a suggéré l'organisation du recrutement, une utilisation

complète des auxiliaires dentaires et l'éducation permanente.

Il a ajouté: "Au moment où nous nous acheminons vers un emploi plus intelligent des auxiliaires, nous avons l'occasion de songer aux hommes et femmes qui pourraient trouver leur avenir dans ces domaines nouveaux. J'aimerais en particulier voir la profession assumer la responsabilité de former les hygiénistes masculins. Je pense à un groupe particulier recruté parmi des militaires libérés" a-t-il dit.

Cours implantaire de Lariboisière

Le Cours implantaire de Lariboisière aura lieu à Paris, à l'Hôpital Lariboisière du 15 au 19 novembre 1969. Ce cours exposera toutes les méthodes et techniques valables, actuellement utilisées en implantologie. Il durera cinq jours, dans un service hospitalier de 9 h. du matin à 7 h. du soir. Les déjeuners sont pris en commun.

Toutes les méthodes implantaires, aussi bien juxta-osseuses qu'endo-osseuses y sont enseignées.

En raison des nombreuses demandes reçues et du fait du nombre limité de participants, nous vous demandons de nous adresser la somme de 500 francs (\$100) afin de vous réserver une place, le complément à verser le jour de l'ouverture du cours étant de 800 francs (\$160).

Pour tous renseignements complémentaires, s'adresser: Dr R. Cherchève, 5 avenue de l'Opéra, Paris 1er, France.

Chirurgie buccale: réunion à Amsterdam en mai 1971

L'Association Internationale des Chirugiens Buccaux tiendra sa quatrième conférence internationale au Centre des Congrès à Amsterdam du 17 au 21 mai 1971.

Le programme scientifique comprend des symposiums sur les tumeurs osseuses bénignes des mâchoires et sur le sinus maxillaire. D'autres discussions auront lieu sur la traumatologie du squelette facial et une séance spéciale est prévue au cours de laquelle des stagiaires feront état des résultats de leurs recherches.

Des films seront présentés tout au long de la conférence. Il y aura exposition d'instruments et de matériels dentaires nouveaux ainsi que de la documentation professionnelle.

Parmi les activités sociales on note une réception au Musée national hollandais, une soirée de ballet, un banquet, des excursions aux usines du Delta, des tournois de golf et de la navigation de plaisance.

Pour tout renseignement, écrire au Secrétariat du IVe Congrès International de Chirurgie Buccale, Congressbureau Inter Scientias, Case postale 9058, La Haye, Pays-Bas.

Les organismes dentaires

Le Collège du Québec augmente ses droits à \$150

La contribution annuelle du Collège des Chirugiens Dentistes de la Province de Québec passera de \$100 à \$150 à compter du 1er juillet, a révélé le Dr R. M. LeBlanc, registraire du Collège.

Le Dr LeBlanc a déclaré que la décision était rendue nécessaire par le développement des services dans les domaines de l'éducation permanente, de la formation des assistantes dentaires, de l'accréditation hospitalière et de la médiation. L'administration, les augmentations de personnel et l'agrandissement des locaux du secrétariat nécessiteront des fonds supplémentaires. Le Collège relèvera aussi de \$40 à \$55 son octroi annuel à l'Association Dentaire Canadienne.

En C.-B., nouvelle politique du Collège sur les examens de licence

A l'avenir, ceux qui détiennent un certificat du Bureau national d'examen dentaire pourront bénéficier, dans les deux ans qui suivent l'obtention d'un diplôme d'une faculté dentaire canadienne accréditée, de l'inscription et de l'autorisation d'exercer en Colombie-Britannique sans aucun autre examen.

La décision, annoncée le 17 mars par le Collège des Chirugiens Dentistes de la Colombie-Britannique, modifie donc son attitude précédente au sujet des examens cliniques pour les dentistes qui demandent à s'inscrire en Colombie-Britannique.

L'économie

Un premier dentiste part pour le nord de l'Ontario

Un premier dentiste vient de s'inscrire au programme du ministère de la Santé de l'Ontario qui vise à procurer des services dentaires et médicaux aux régions éloignées.

Le Dr J. J. Pogany, de Toronto, diplômé de l'Université de Melbourne, en Australie, a établi son cabinet à Kapuskasing. Le ministère de la Santé de l'Ontario a désigné 28 zones semblables manquant de dentistes et en étudie actuellement 20 autres.

Selon le programme annoncé en juillet dernier, la province garantit aux dentistes un revenu annuel de \$22,000. Si le revenu n'atteint pas le niveau garanti, la province leur versera la différence. Ils conserveront le revenu acquis si celui-ci dépasse \$22,000.

Selon un programme alternatif, la province ne garantit pas le revenu, mais

verse d'emblée des subventions allant jusqu'à \$14,000 sur quatre ans, pour permettre au dentiste d'ouvrir son cabinet.

Vingt-cinq dentistes, y compris huit étudiants qui seront diplômés, trois praticiens qui ont l'intention de déménager, ainsi que les 14 dentistes tchèques qui se recyclent actuellement à l'Université Western Ontario, offriront leurs services aux régions éloignées cette année.

Le Collège de la Saskatchewan appuie la limitation des honoraires

Le Collège des Chirugiens Dentistes de la Saskatchewan n'augmentera pas son barème d'honoraires cette année. Le barème actuel date de deux années déjà.

La décision a été prise lors de la réunion des 13 et 14 mars du CCDS, à la suite de la recommandation du Conseil Exécutif de l'ADC qui priait les organismes dentaires provinciaux de limiter ou de retarder les augmentations des barèmes d'honoraires en 1970.

Le Conseil de l'ADC réclamait une restriction volontaire des augmentations en vue de maîtriser l'inflation.

Le Nouveau-Brunswick se joindra à l'assurance-maladie en janvier prochain

Le premier ministre Louis Robichaud a annoncé le 5 mars que le Nouveau-Brunswick se joindrait au régime fédéral d'assurance-maladie en janvier prochain et qu'Ottawa paiera environ 70 p.c. du coût.

Le Nouveau-Brunswick, qui fut la première province à s'engager envers le programme, sera la dernière à y participer. Le système fonctionne déjà dans toutes les autres provinces, sauf le Québec et l'Île-du-Prince-Édouard qui s'y joindront dans le courant de l'année.

Le premier ministre a déclaré que le programme coûterait quelque \$24 millions la première année soit 7 p.c. du budget provincial de l'année dernière, mais il n'y aura pas de primes et aucune augmentation d'impôts n'est prévue pour le payer.

Il a déclaré que la province était actuellement capable de financer sa part du projet. "Il peut y avoir quelques variations de la structure de l'impôt dans la province, mais aucune augmentation substantielle".

Assurance dentaire pour les employés américains de 3M

Un régime conventionnel d'assurance dentaire pour les employés salariés de

Minnesota Mining and Manufacturing (3M) est entré en vigueur le 1er mars. Le régime couvre les employés de 3M et leurs personnes à charge dans chacun des états américains, soit plus de 25,000 personnes pour l'ensemble du pays.

Le régime paie 75 p.c. des honoraires ordinaires et habituels pour la plupart des services dentaires y compris l'examen préventif deux fois par an. Il paie 50 p.c. des travaux de prothèse et d'orthodontie. La franchise déductible est de \$1.25. Pour l'orthodontie la prestation maximale pour la vie est de \$750 par personne.

Les autres prestations maximales sont de \$1,000 par année civile et de \$2,500 pour la vie par personne.

Le régime dentaire fait partie d'un ensemble de régimes d'assurance pour les employés salariés de 3M.

L'hygiène publique

Limitation des huiles végétales bromées dans les jus d'agrumes

Le ministre de la Santé nationale, M. John Munro, a annoncé que les fabricants de boissons parfumées aux agrumes devront réduire la concentration d'huiles végétales bromées à un maximum de 15 parties par million au lieu des taux actuels atteignant 150 ppm.

Le ministre a expliqué que des recherches effectuées aux laboratoires de la Direction des Aliments et des Drogues ont mis en question l'innocuité des huiles végétales bromées. Ces produits, employés depuis des années, entrent dans la composition de la saveur de certaines boissons parfumées au goût d'agrumes.

"A la suite de ces recherches", a déclaré M. Munro, "j'ai décidé de réduire la quantité d'huiles végétales bromées permise dans les aliments vendus au Canada. Les fabricants ont été avisés de procéder aux changements nécessaires dès que possible, et en tout cas, avant le 1er juillet".

Les chercheurs du ministère ont trouvé que des rats soumis à de fortes doses d'huiles végétales bromées étaient atteints de lésions cardiaques et d'une détérioration de la fonction cardiaque. Les faibles doses étaient cependant sans effet. Les conseillers scientifiques ont donc pu déterminer quel apport quotidien d'huile végétale bromée est sans danger et acceptable pour l'homme.

"Cet apport quotidien a été évalué à 0.5 mg/kg de poids corporel, soit le centième de la quantité qui n'a pas entraîné d'effets dangereux chez les animaux de laboratoire", a déclaré M. Munro.

La recherche

Un hôpital de Toronto entreprendra des recherches sur les malformations faciales

Chaque année, 250 enfants environ naissent en Ontario avec des malformations faciales graves, comme le bec de lièvre et le palais fendu.

Le Toronto Hospital for Sick Children va entreprendre des recherches sur les causes de ces déformations et à reçu à cet effet une subvention de \$72,000 du Département de la Santé, de l'Education et du Bien-être des Etats-Unis.

La subvention, étalée sur une période de trois ans, a été accordée à la clinique maxillo-faciale de l'hôpital, fondée en 1955.

Le Dr R. B. Ross, responsable de l'orthodontie à l'hôpital, déclare qu'il n'existe que quatre cliniques de ce genre en Amérique du Nord, et que celle de Toronto a reçu la subvention à cause de son grand nombre de patients.

Grâce à la renommée de l'hôpital, les enfants y sont envoyés de toutes les régions de l'Ontario. Il estime que la clinique, qui reçoit 25 nouveaux patients chaque année a déjà traité de 400 à 500 cas sur lesquels il n'existe pas de rapports et qu'elle s'efforcera de retrouver.

Les difformités sont surtout congénitales, mais certaines sont dues à des accidents. La subvention s'applique aux malformations congénitales. Les recherches porteront sur les principales causes de ces défauts. Les chercheurs étudieront la croissance du visage afin de déterminer quel est le meilleur moment d'opérer dans chaque maladie particulière.

Vaste campagne de l'Institut de Recherche pour supprimer la carie

L'Institut National de la Recherche Dentaire des E.-U. a demandé \$5 millions de plus dans la prochaine année fiscale en vue d'un effort concerté pour prévenir presque totalement la carie d'ici 1980.

Un programme de 10 années de recherche et de mise au point intensifiées indique les pistes les plus prometteuses que l'Institut entend suivre dans ses études intra et extra-muros. Les diverses approches du programme sont:

Etudes de l'application locale intensive de fluor pour compléter la protection fournie par la fluoration de l'eau;

Recherche sur les nouveaux adhésifs améliorés qui peuvent isoler et protéger efficacement de la carie les surfaces de la dent particulièrement vulnérables;

Essai d'antibiotiques et d'antiseptiques à employer pour l'hygiène buc-

cale humaine et pour maîtriser les bactéries cariogènes;

Etudes sur des enzymes comme la dextranase pour déterminer si elles peuvent être employées efficacement pour réduire la carie chez l'homme, et

Mesure de l'efficacité des phosphates alimentaires et d'autres corps simples comme adjuvants dans la prévention de la carie.

Une méthode qui pourrait prolonger la survie des dents greffées

Des chercheurs qui étudient le rejet des dents greffées sont parvenus à en prolonger la survie en modifiant le greffon. Leurs recherches indiquent que les greffons fonctionneront plus longtemps si l'on emploie des dents adultes et si l'on élimine tous les tissus mous de la chambre pulpaire et de la surface de la racine.

L. B. Shulman, professeur assistant chargé de clinique à l'Ecole de Médecine Dentaire à Harvard, a trouvé que l'élimination des tissus mous est avantageuse car ceux-ci provoquent une réaction due à l'immunité plus forte que celle causée par les tissus durs et calcifiés de la dent.

Le Dr Shulman pense que, malgré le rejet éventuel, les greffes dentaires seraient pratiques si l'on pouvait les faire durer une huitaine d'années en moyenne, alors que la moyenne de survie espérée actuellement n'est que de quatre ans.

Le Dr Shulman rapporte que, lors d'essais en laboratoire, pratiquement tout le tissu mou de la surface de la dent a pu être enlevé en trempant la dent d'abord dans de l'hyaluronidase puis dans de la collagénase. Ce procédé ne semble pas endommager le ciment. La pulpe est également enlevée par les moyens ordinaires immédiatement après l'extraction de la dent. Avant la transplantation, la dent est baignée dans une forte solution de fluor pour augmenter sa résistance à la dissolution par le mécanisme de rejet.

A la longue, cependant, la dent finit par être résorbée. Utilisant des singes pour ses recherches, le Dr Shulman a comparé le sort des dents déplacées d'une alvéole à une autre chez le même animal (autogreffes) et des dents transplantées d'un singe à un autre (allogreffes). Les autogreffes qui prennent s'attachent par des fibres gingivales de façon très semblable à celle des dents naturelles, mais les allogreffes sont fixées par du tissu osseux. Lorsque les cellules du corps attaquent la racine de la dent étrangère qu'elles éliminent peu à peu, l'os pousse à sa place. Ce mécanisme de rejet ne cause ni douleur ni effet secondaire néfaste. La dent demeure tout à fait ferme et fonctionnelle jusqu'à ce que la racine soit complètement résorbée.

Panoramic radiography in a hospital dental service

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Panoramic radiographs give a comprehensive image of the entire masticatory apparatus and associated structures without the image distortion and superimposition of structures found in conventional extra-oral radiographs. Unlike periapical films, the panoramic radiograph reveals radiolucent lesions which occur or extend beyond the dento-alveolar structures. Panoramic equipment is easy to use and particularly suited to a hospital dental service which deals with a large volume of patients.

La radiographie panoramique fournit une image d'ensemble de l'appareil masticateur et des structures connexes sans la déformation de l'image ni la surimpression des structures que donnent les radiographies extra-buccales traditionnelles. Contrairement aux films périapicaux, la radiographie panoramique révèle les lésions radioclares qui se produisent ou s'étendent au-delà des structures dento-alvéolaires. L'équipement panoramique est d'emploi facile et convient particulièrement à un service dentaire hospitalier qui doit examiner un grand nombre de patients.

The principle, the advantages and disadvantages of panoramic oral radiography have been described by many authors.¹⁻⁵ This paper illustrates the usefulness of panoramic radiographs in a comprehensive hospital dental program.

Briefly stated, panoramic oral radiography employs the principle of body section radiography (tomography) by which a radiographic image of a specific layer of an object is obtained. By rotating the x-ray source and the film on a common axis about the stationary patient, a "slice" is taken through the dental arches and contiguous areas. This slice, approximately half-an-inch deep, is in reasonably sharp focus, while

adjacent structures are blurred out. The Panorex unit which we use in this hospital employs the eccentric technique with two centres of rotation which are located slightly behind and medial to the third molars.

Radiolucent lesions of the jaws

Conventional intra-oral radiographs are inadequate to demonstrate the presence or the extent of radiolucent lesions which occur or extend beyond the dento-alveolar structures.

As a rule, extra-oral radiographs of the jaws are only used when intra-oral films fail to delineate the extent of a lesion or when signs and symptoms warrant their use.

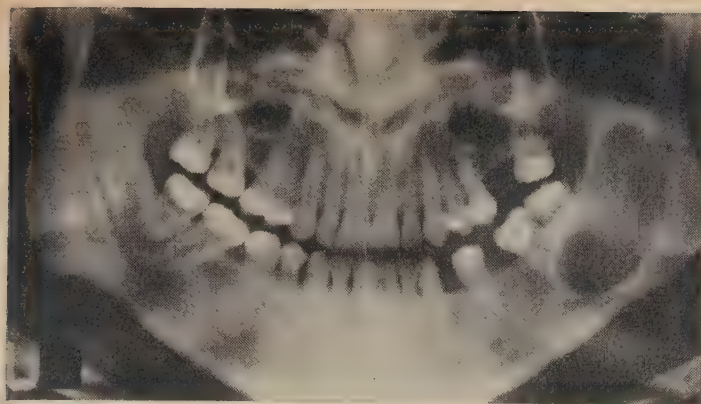
Panoramic radiography remedies these shortcomings. It affords full visualization of the entire masticatory apparatus and associated structures, with less image distortion and superimposition of structures than is found in conventional extra-oral radiographs (Fig 1-5).

Impacted teeth

Routine panoramic radiography frequently reveals imbedded teeth located far from the alveolar process and therefore not seen in intra-oral radiographs. Conventional extra-oral surveys, consisting of right and left lateral oblique and postero-anterior views, are impractical for this purpose in the absence of suggestive signs and symptoms. Furthermore, the panoramic view projects an image of the posterior maxillae and ascending rami with less distortion than can be achieved with other non-tomographic extra-oral views (Fig 6-8).

Antral pathology

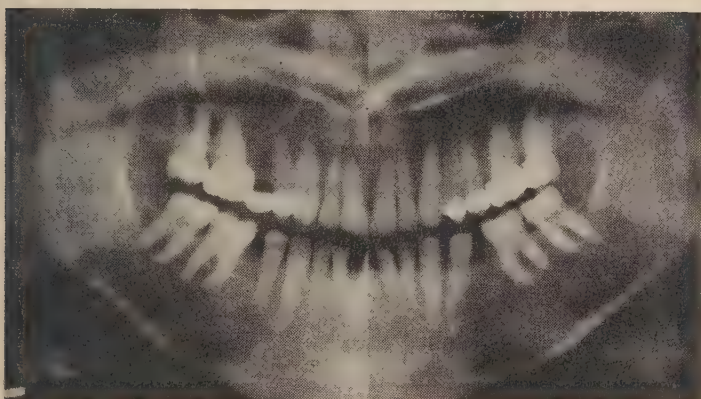
Panoramic oral radiography in no way supplants conventional radiography of the maxillary sinuses. However, its routine use will uncover many conditions that are suggestive of maxillary sinus pathology.



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A difference in density between the two maxillary antra on a single oral panoramic film is not necessarily indicative of sinus pathology. The explanation lies in the fact that panoramic radiography employs the principle of curved surface laminography. Asymmetry of the anatomical structures or eccentric head positioning may therefore produce images of the right and left antra which are not in the same plane (Fig 9, 10).

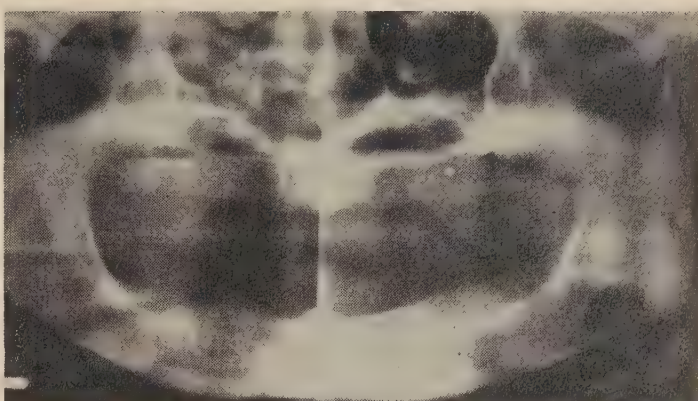
Malignant disease

The extent of malignant invasion of bone is more readily comprehended in the panoramic radiograph since the entire jaw is projected on a single film. However, image distortion and overlapping in the mandibular incisor region must be kept in mind when interpreting these films.

Planning for postsurgical prosthetic rehabilitation



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Fig 1 A large cyst associated with the right mandibular molars and extending well into the ascending ramus. The mandibular canal is depressed and the roots of the molars are eroded.

Fig 2 Large dentigerous cyst in an "edentulous" patient. One of the two unerupted mandibular third molars is associated with the large cystic cavity extending into the ascending ramus. This panoramic view illustrates the importance of routine, adequate radiographic examination of the edentulous patient. Without the presence of teeth as landmarks, it is difficult to localize isolated root fragments or other small lesions in fragmented, overlapping, individual intra-oral radiographs.

Fig 3 Multiple cysts of the right and left maxillae and the right mandible in a patient with a basal cell-naevus syndrome. The large cyst in the right posterior maxilla extends into but does not communicate with the maxillary sinus. Cystic lesions were enucleated from both ascending rami in previous years; note the increased density of the bone in these areas.

Fig 4 A static bone defect of the mandible in an edentulous patient. This defect usually appears as a well defined, ovoid or round radiolucency with a broad hyperostotic border and occurs in the body of the mandible near the angle, below the mandibular canal. Although the radiographic appearance simulates that of a cyst, surgical exploration of these defects usually reveals the presence of normal salivary gland tissue. Routine panoramic radiography has shown that this abnormality is commoner than was previously thought.⁶

Fig 5 Bilateral cyst-like radiolucencies in the mandible of a patient with Gaucher's Disease. These lesions result from osteoporotic changes caused by a defect in lipoid (kerasin) metabolism. The panoramic film graphically depicts the extent and bilateral symmetry of the lesion in this patient.

of the partially resected mandible may be enhanced by the panoramic projection of the remaining fragments which are then seen in functional relationship to the maxilla (Fig 11-13).

Sialolithiasis

Conventional intra-oral periapical radiographs are virtually useless for detecting sialoliths in Wharton's duct or calcific changes in the body of the sub-maxillary gland. Occlusal films, though preferable to periapical radiographs, often miss calcifications in the distal portion of the duct and in the gland itself. Panoramic radiographs, on the other hand, afford a view of the entire gland-duct system (Fig 14).

Fractures

Until recently, the fractured mandible was customarily visualized by means of several extra-oral projections — principally, right and left lateral oblique and postero-anterior views. These three, when executed with sufficient technical skill, generally reveal a composite view of the entire mandible. But many of the

films suffer from superimposition of the cervical spine on the upper third of the ascending ramus in the lateral-oblique view, and on the symphyseal area in the postero-anterior view.

With panoramic radiography, an image of the entire mandible may be obtained on one film with relative ease and consistency. Another significant advantage is the minimal amount of patient manipulation required in order to obtain a radiograph of the mandible (Fig 15, 16).

As with conventional radiographs, the three dimensional aspect of mandibular fractures must still be sought in projections such as the submento-vertex and Towne's views.

Discussion

Oral panoramic radiography is particularly suited to an active hospital dental service which deals with large numbers of patients. Its ease of operation and rapidity of film exposure remove the limitations on examinations which are imposed by conventional intra-oral radiographs.

A considerable saving of time also results from the use of automatic film processing equipment which is

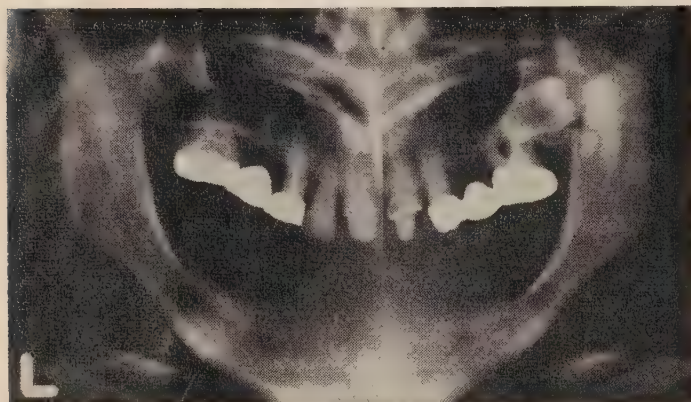
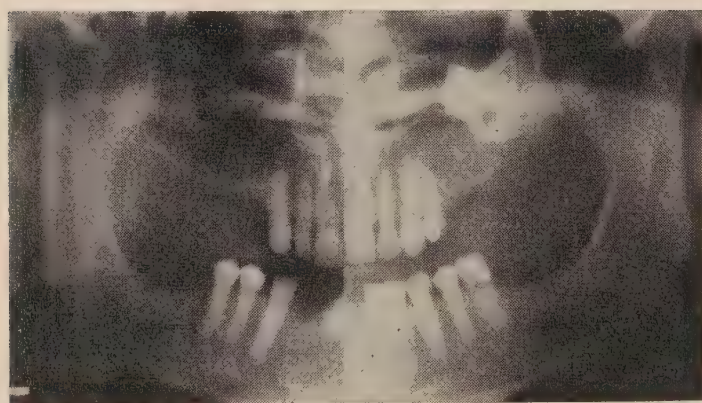


Fig 6 An aberrant molar near the sigmoid notch of the right mandible. A maxillary molar is seen in the adjacent tuberosity. This view is difficult to duplicate by other techniques.

Fig 7 A molar, undergoing resorption, appears in the general area of the left maxillary sinus. Further conventional tomographic studies localized this tooth in the lateral wall rather than within the antrum.

Fig 8 A molar with a metallic restoration is inverted in the left antrum. The latter, though asymptomatic, is radiopaque. The patient was unaware of the displaced tooth, having had no complications since sustaining facial fractures six years earlier in an automobile accident. Upon removal of the tooth, the maxillary sinus was found to be copiously filled with granulation tissue.

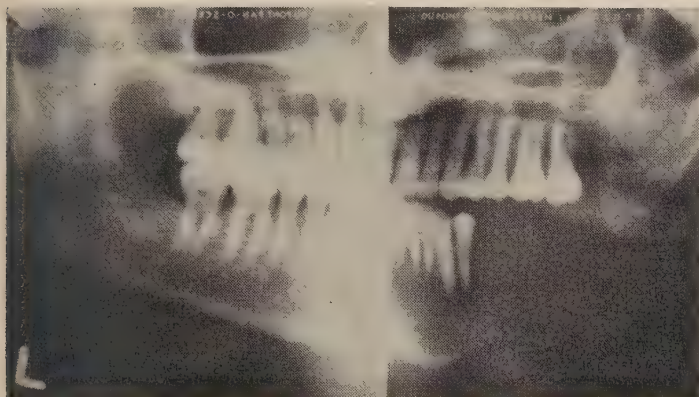




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Fig 9 Cloudy right maxillary sinus associated with an oro-antral fistula. Clinical examination disclosed oro-antral communication and a purulent exudate that issued from the socket of the recently extracted right maxillary first molar.

Fig 10 The mushroom shaped radiopacity in the left maxillary sinus is a mucous retention cyst. This defect is seen with relative frequency in oral panoramic radiographs. It may appear as a polypoid, spherical, well-outlined radiopacity which sits on the floor of the maxillary sinus. Its radiographic identification is not entirely reliable; other pathological entities must therefore be ruled out before making a positive diagnosis.

Fig 11 Massive bone destruction, caused by an epidermoid carcinoma in the floor of the mouth, has resulted in loss of continuity of the mandible and upward displacement of the distal fragment. Several mandibular teeth are suspended in the tumour mass. Conventional radiography would not afford as comprehensive a view of this lesion as does the panoramic radiograph.

Fig 12 Epidermoid carcinoma arising in the left tonsillar fossa has invaded the ascending ramus of the mandible, producing an area of irregular bone destruction. The radiographic appearance mimics an infective process.⁷

Fig 13 Partially resected mandible with upward displacement of the distal fragment. The radiograph shows the size and position of the remaining fragments, details which may be useful in planning rehabilitation by bone graft or a prosthetic device.

available in most hospital radiology services, and from eliminating the need for mounting individual films in the standard intra-oral series.

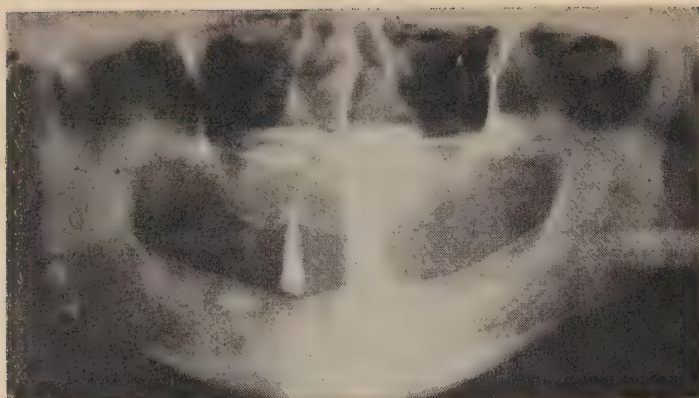
The elimination of intra-oral film placement and the attendant contamination of film packets has certain advantages in the hospital environment, particularly when dealing with debilitated individuals and patients with infectious diseases.

Panoramic radiography has the additional advantage of providing satisfactory radiographs in patients with trismus or a hyperactive gag reflex.

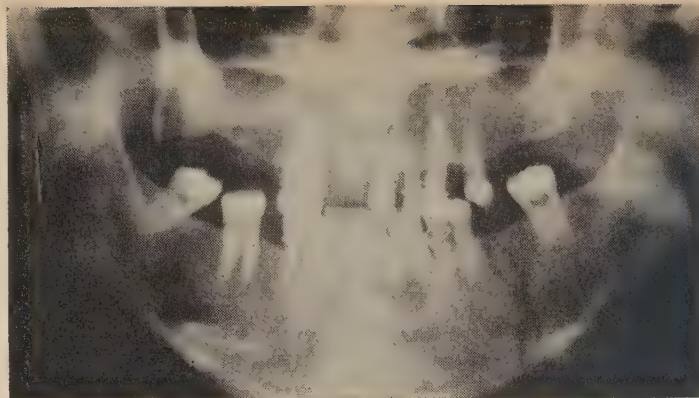
Furthermore, total radiation exposure with this technique is markedly below that of the standard intra-oral series.

There are also limitations, however.

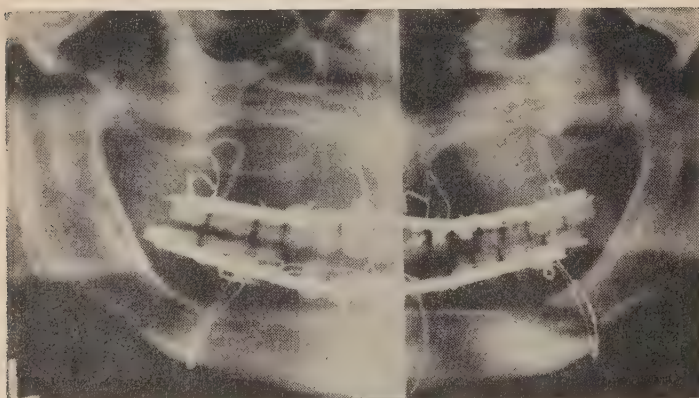
The Panorex unit can only be employed in patients who can be properly positioned in its special chair. This rules out its use in some individuals with neurological and spinal cord injury, some amputees, the



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Fig 14 Multiple sialoliths of the left submaxillary gland and duct. The sialolith in the anterior portion of the duct is superimposed on the body of the mandible in this projection. An occlusal film would confirm its presence in the floor of the mouth. Although its configuration, location and density are not typical of such entities as enostosis, retained root or torus, periapical films would rule out its presence in the mandible.

Fig 15 A classical body fracture of the right mandible and subcondylar fracture on the contralateral side. Temporary Ivy-loop wiring is in place.

Fig 16 Fixation of mandibular fracture by circumferential wiring of complete upper and lower dentures.

very obese, and others who cannot be transferred from a bed, litter or wheelchair to the Panorex chair.

The lack of image sharpness or detail which is inherent in the panoramic process frequently requires supplementation by intra-oral films.

There is also a degree of linear distortion and magnification for which one must compensate when interpreting panoramic films.

The Panorex technique produces a double image of the incisors as well as a blurred area in the centre of the film. These can be eliminated by cutting and splicing, as has been done with the films illustrating this paper. In routine use, however, one can learn to accommodate to this without the necessity of cutting and splicing film.

Admittedly, all of the lesions shown could have been demonstrated by the combined use of conventional intra-oral and extra-oral radiographic techniques, if applied routinely. But since extra-oral views are requested only in the presence of signs or symptoms of disease, many of these lesions would have escaped detection without oral panoramic radiography.

Conclusion

Routine oral panoramic radiography supplements conventional intra-oral or extra-oral radiography at the Bronx Veterans Administration Hospital. It provides considerable additional diagnostic information and

help in treatment planning and in recording treatment progress.

After four years of use, panoramic radiography has become so much a part of our diagnostic and treatment procedures that it would be difficult to envision its elimination from our hospital dental service.

The authors express appreciation to the Medical Illustration Service of the Bronx Veterans Administration Hospital for the illustrations used in this article.

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Anomalous dysplasia of dentine: Report of case

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The authors describe an unusual hereditary dentinogenic abnormality affecting the primary and permanent dentitions. The teeth have short narrow roots and bulbous crowns. The young pulps, which are very large, contain calcareous material which gradually obliterates the pulp chambers. This anomaly appears to stem from a Mendelian dominant non-sex linked factor.

Les auteurs décrivent une anomalie dentinogénique héréditaire rare affectant les dentitions primaire et permanente. Les dents présentent des racines courtes et étroites et des couronnes bulbeuses. Les jeunes pulpes, qui sont très développées, contiennent une matière calcaire qui tend à oblitérer graduellement les chambres pulpaires. Cette anomalie paraît provenir d'un facteur mendélien du type dominant et non-lié au sexe.

Dentinogenic abnormalities can present a wide spectrum of unusual manifestations, as this report shows.

Routine radiographs of 850 British Columbia children participating in a recent clinical research project revealed a rare dental condition in an 11 year old girl (Fig 1). The pulp chambers of the permanent teeth, particularly in the bicuspid, were enlarged and had apical extensions. The roots, especially in the mandibular central incisors, were short and narrow and the crowns were short and square. This combination of abnormalities gave the pulps a flame-shaped outline. Calcified areas were visible in the pulp chambers of all primary and permanent teeth except the mandibular left second bicuspid. In the permanent first molars and incisors, the pulp chambers were almost completely filled with calcified material. The teeth had a normal colour.

Genetic, histological and systemic information was sought to assist in an accurate diagnosis.

Family history

Dental radiographs and histories were obtained from three brothers aged 17, 12 and nine, the mother and father both aged 41, and the mother's brother aged 46. The radiographs revealed the same condition in the mother (Fig 2), the uncle and one brother.

The mother wore a complete upper denture. Though she had only 11 mandibular teeth and some decayed roots, the condition is still apparent. The mandibular

incisors revealed an outline of enlarged pulp chambers; these were almost completely filled with calcified material.

One other male sibling and the father had a few pulp calcifications without alteration in chamber size. Such small localized accretions of calcareous material are within normal limits.

The third brother had no dental abnormalities. The maternal grandmother was edentulous. However, she recalled having teeth similar to her son, her daughter and two of her grandchildren. The hereditary cycle is depicted in Figure 3.

The four children were born and raised in the same community under similar circumstances. The parents and grandmother were born in an adjacent community. All, except the father, were obese. Despite extensive caries, the mother and the two children with the dental abnormality claimed they had never had a toothache. The other two children had experienced toothaches due to progressive caries.

Microscopic examination

Two primary cuspids, obtained from the daughter, were sectioned and stained. Examination disclosed irregular dentinal tubules (Fig 4). They course through the dentine in bundles and tufts, close to the pulp, rather than as individual tubules. The enamel and adjacent dentine are normal. There are suggestions of a channel running from the dentino-enamel junction to the pulp.

Systemic examination

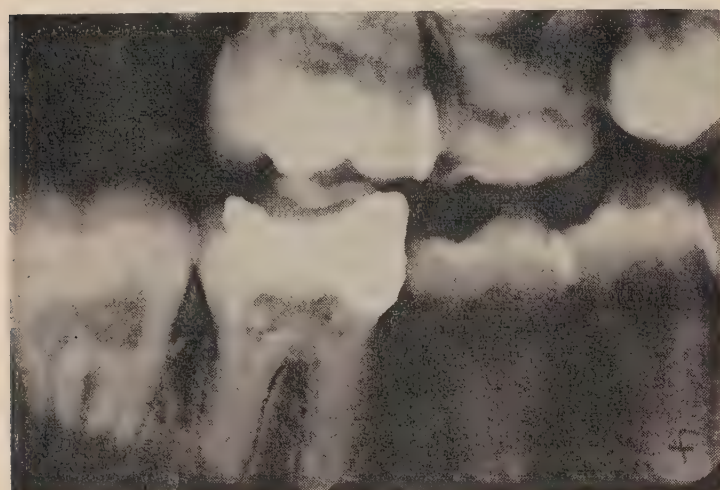
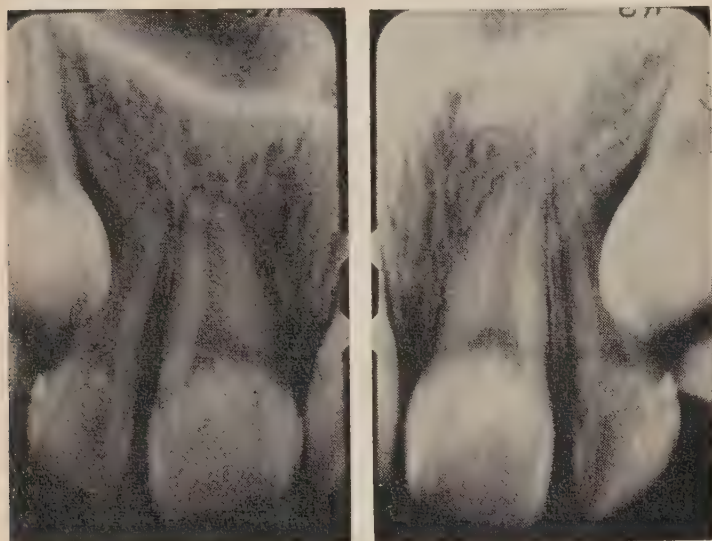
Radiographs of one of the girl's long bones, wrists and hands showed no abnormalities. Serum calcium, phosphate and alkaline phosphatase levels were within normal limits for an 11 year old. The family physician reported only the usual childhood ailments.

Discussion

This anomaly is an unusual hereditary developmental condition which appears to stem from a Mendelian dominant non-sex linked trait (Fig 3). It affects primary as well as permanent teeth. The young pulps are very large and contain calcareous material which in time fills the chambers. The teeth have short, narrow roots and bulbous crowns. The dentine contains a decreased number of irregular tubules. The permanent teeth have a normal colour. No related systemic conditions are evident.

Many of these features resemble those of dentinogenesis imperfecta.¹⁻³ Yet, some of the more common manifestations of dentinogenesis imperfecta are absent.

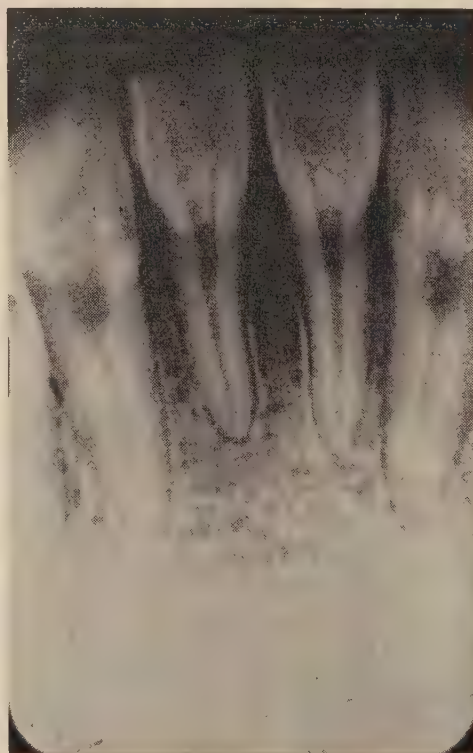
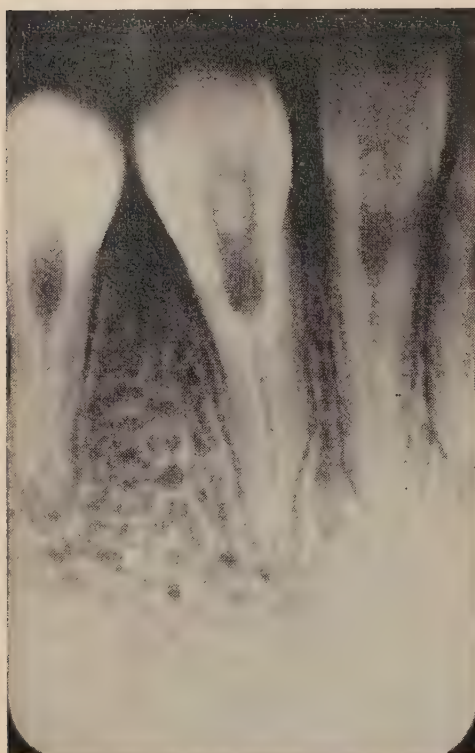
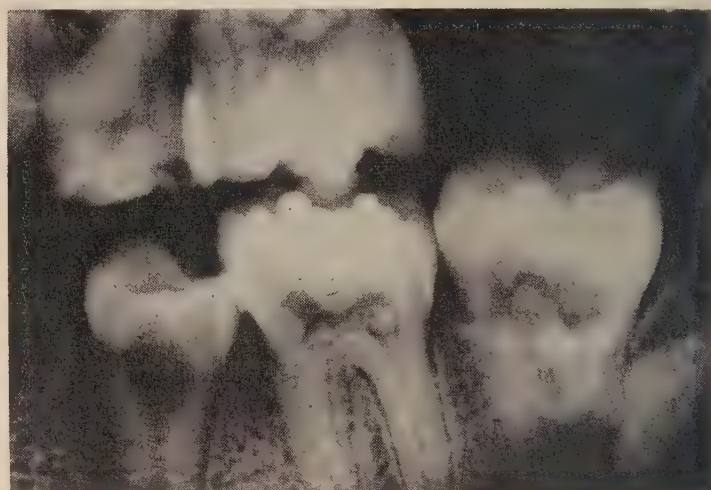
Fig 1 Radiographs of an 11 year old girl depict large flame-shaped pulps containing numerous areas of calcification.



The teeth are not opalescent, they showed no tendency to fracture, and had no sign of excessive wear. Furthermore, this case presents abnormalities, such as calcareous material in the pulp and enlarged pulp chambers, not found in dentinogenesis imperfecta.²

Familial hypophosphataemia is characterized by wide pulp chambers and canals with minute pulp exposure, low serum phosphate and, to a lesser extent, low serum calcium.^{2,4} Other features are osteomalacia and the absence of related conditions. In this case, however, the girl's calcium, phosphate and alkaline phosphatase levels were within the normal range, as were radiographs of her long bones.

In dentinal dysplasia, another rare hereditary condition involving primary and permanent teeth, the teeth have clinically normal crowns but very short pointed roots. The pulp chambers are obliterated with bizarre whorl-like dentine, and there is a strong tendency to periapical involvement and early exfoliation.^{5,6} The case we describe has some similar features; however, the dentine is not whorl-like and does not extend into the pulp chambers. There are no periapical lesions and the exfoliation time is normal.



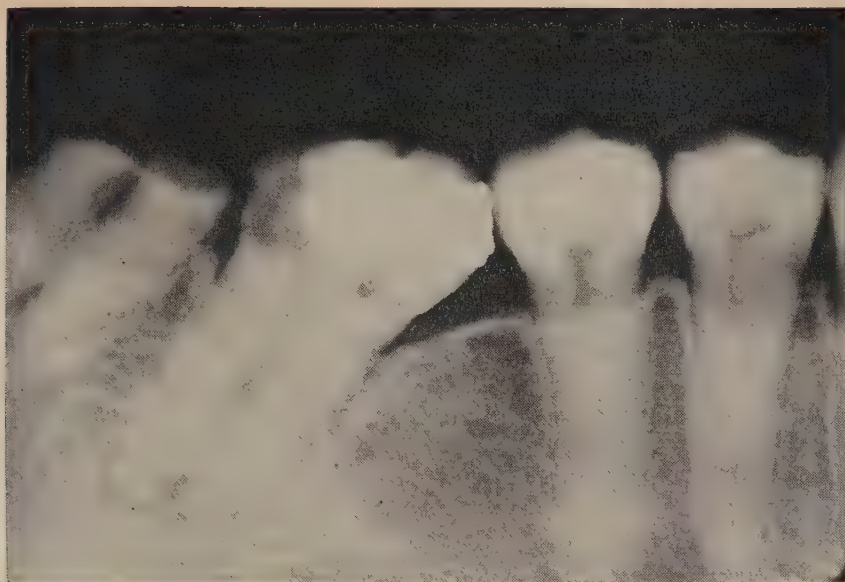


Fig 2 Abnormal pulp chambers in the patient's mother.

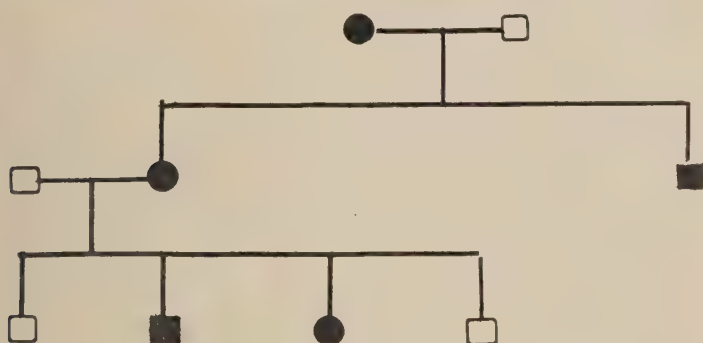
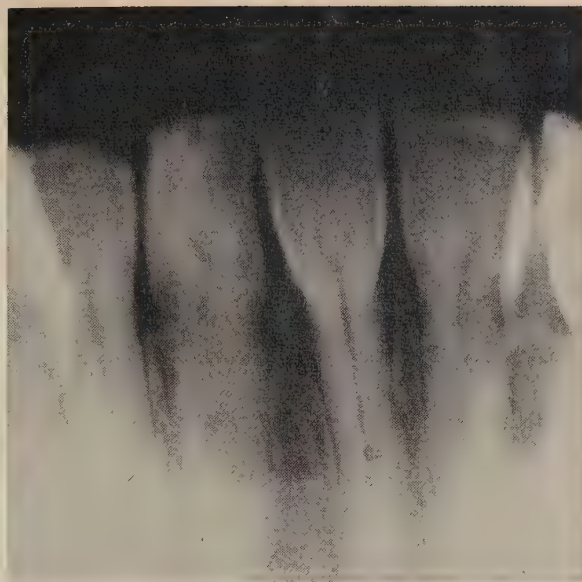


Fig 3 Hereditary cycle of anomalous dysplasia of dentine.

Conclusion

It is difficult to arrive at a specific diagnosis in the case we have described. The answer appears to lie between dentinogenesis imperfecta and dentinal dysplasia. It has been suggested that such transitional cases do exist.⁷ Sobel and Doykos,⁸ who recently reported an unusual case of dentinogenesis imperfecta, postulate there are a multitude of dentinogenic abnormalities rather than a few specific conditions. Our case supports this view. Indeed, we suspect that the variance of symptoms between cases may depend on differences in genetic makeup, supplemented by some environmental influence. If this assumption is correct, it may turn out that we have been too zealous in assigning dental developmental abnormalities into well-defined, neat little slots.

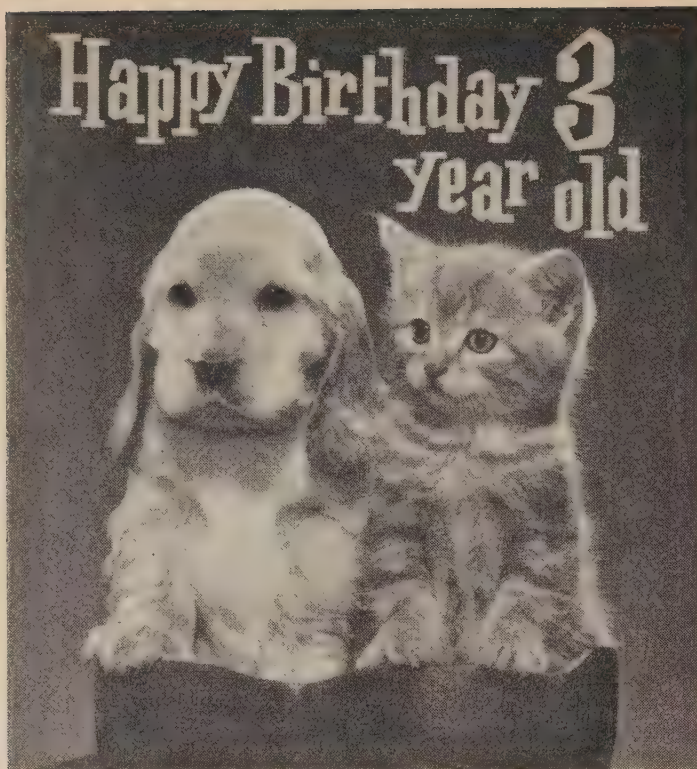
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Fig 4 Section from patient's primary cuspid shows irregular dentinal tubules close to the pulp and suggestions of a channel running from the dentino-enamel junction to the pulp. x 100.

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Four year effect of a dental birthday card program for three year old children

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To achieve good dental health with minimal premature primary tooth loss, Grade 1 children should be under the regular care of a dentist by the age of three years. Our dental health team has previously reported two methods of promoting this objective as accepted community behaviour. In Penticton, parents and their three year old children were invited to the health unit where a dental hygienist, through education and freely supplied topical fluoride treatments, engaged the parents' interest in caring for children's primary teeth.¹ In Kelowna and Kamloops, we initiated a birthday card program for three-year-olds in cooperation with local dentists.² These cards entitle the child, accompanied by his parent, to examination, counselling and topical fluoride treatments from the family dentist. Fees for these services are paid by the British Columbia Health Branch. Parents must pay for any other treatment required.

The initial birthday card program began in 1964-65 in Kelowna and School District 23. This paper describes the effects of that program, some four years later, when the starting group of children had entered Grade 1. About half of these children live in Kelowna.

The authors compare two methods of promoting community-wide dental care for young children. In one case, birthday cards were mailed to three year old children. The cards entitled the recipients to examination, counselling and topical fluoride applications from the family dentist. The provincial health department paid for these services. In the other project, three year old children were invited to the health unit office where a dental hygienist offered counselling and free topical fluoride applications. Four years later the children from the two projects were compared with one another and with other non-participating children. Birthday card users had decidedly better dental health than the non-participants. The birthday card program was also less costly and more effective in securing necessary dental care than the hygienist's program.

Les auteurs comparent deux méthodes qui ont été employées pour favoriser la demande de soins dentaires chez les jeunes enfants à l'échelle de la communauté. Dans un cas, on a envoyé des cartes d'anniversaire aux enfants âgés de trois ans. Ces cartes leur donnaient droit à être examinés et conseillés par le dentiste de la famille, et à recevoir des applications topiques de fluor. Ces services étaient payés par le ministère provincial de la Santé. Dans l'autre cas, on invitait les enfants de trois ans au bureau du service de santé où une hygiéniste dentaire les conseillait et pratiquait gratuitement des applications topiques de fluor. Après quatre ans, on a comparé entre eux les enfants des deux programmes et aussi avec des non-participants. Les dents de ceux qui avaient reçu la carte d'anniversaire étaient assurément en meilleur état que celles des non-participants. L'obtention de soins par l'emploi du système de cartes d'anniversaire était aussi un système moins coûteux et plus efficace que de celui de l'hygiéniste.

The city has 12 resident dentists. Its water has been fluoridated since 1955. The remaining children live on orchards and in small rural centres that are without resident dentists or mechanical fluoridation.

Method

Each Grade 1 classroom in School District 23 contained three groups of children: (a) students who had used the birthday card, (b) students who were eligible and whose parents were contacted in 1964 but who did not use the card, and (c) students who had never been eligible for the program. These groups were further subdivided into two distinct categories: those living in the city, and those living in the rural areas of the school district.

Dental health was assessed in terms of the following criteria:

Caries-free (no evidence of previous caries experience),

Dental health indices of Grade 1 Kelowna school children in 1968-69

Table 1

Category	N	Caries-free %	With treatment completed %	With partial treatment %	Never treated %	With premature extractions %
Three year old program children who used card	150	31.3	45.3	14.7	8.7	7.3
Three year old program children who did not use card	60	15.0	53.3	15.0	16.7	15.0
Non-program children	212	17.0	45.8	16.0	21.2	17.9
Total	422	21.8	46.7	15.4	16.1	13.7

Dental health indices of Grade 1 rural school children of School District 23 in 1968-69

Table 2

Category	N	Caries-free %	With completed treatment %	With partial treatment %	Never treated %	With premature extractions %
Three year old program children who used card	155	14.8	51.6	22.6	11.0	17.4
Three year old program children who did not use card	84	14.3	36.9	21.4	27.4	19.0
Non-program children	209	15.8	35.9	19.1	29.2	24.8
Total	448	15.2	41.5	20.8	22.5	21.2

Complete caries treatment (all caries treated by fillings, extractions or both),

Partial caries treatment (some, but not all, caries treated),

Never treated (caries present and no sign of any treatment except extractions),

Premature extractions (one or more primary teeth prematurely extracted).

All of the children participated in our Grade 1 dental health program and had lessons on dental health in Grade 1 regardless of whether or not they had previously used the birthday card. During the school year 1968-69, we contacted all the parents and urged them to secure dental care for their children.

Results

The results in Table 1 show a decided advantage for Kelowna children who used the card. This group has many more caries-free children and fewer with premature extractions or never treated. The percentage with complete caries treatment is higher among non-users, however.

Table 2 also shows some decided advantages for rural children who used the card. Here, too, there are far less children in the never treated category. There is virtually no difference in the premature extraction rate of rural card users and non-users. On the other hand, there are important differences between program and non-program rural children.

Table 3 shows how the dental health of Kelowna's Grade 1 children improved in four years since 1964.

The premature extraction rate has been cut in half, children with complete caries treatment have almost doubled, and there is a very marked reduction in the never treated group. Unfortunately, we do not have comparable statistics for rural Grade 1 children as our program did not operate in the rural schools in 1964-65.

Slightly more than half of our 1968-69 Grade 1 children had lived in this school district when they were three years old and were eligible for the program. Kelowna is a rapidly growing centre as demonstrated by Table 3 which shows a 43 per cent increase in the number of Grade 1 pupils from 1964-65 to 1968-69.

Discussion

Several factors, including the birthday card program, undoubtedly contributed to the improved dental health levels in Grade 1. Our school dental program in Grades 1-7 must have had some effect in motivating parents to seek dental care for younger siblings. The same may be said for dental public health education on radio, TV and in newspapers. Furthermore, as the level of general education and incomes rises, more people seek dental treatment from their family dentist.³

However, we are confident that the birthday cards had a decided effect on the community and on parental attitudes. We believe that the cards influenced parents to take their children to the dentist at an earlier age. This conviction is supported by the growing response to the card program in the Kelowna school district. During 1964-65, the first complete program year, 70 per cent of children who received birthday cards attended their family dentist. Since

Comparison of dental health indices of Grade 1 Kelowna school children in 1964-65 and 1968-69

Table 3

Category	N	Caries-free %	With completed treatment %	With partial treatment %	Never treated %	With premature extractions %
All children 1964-65	294	18.0	28.9	29.3	23.8	26.0
All children 1968-69	422	21.8	46.7	15.4	16.1	13.7

Dental Health 'Experiment' Fast Becomes Proven Program

Rural dwellers have more trouble to maintain good dental health than city dwellers, said reports submitted to the South Okanagan Union Board of Health in Oliver Wednesday.

The report said:

"From our experience it is more difficult for people in rural areas to maintain their interest in dental health, particularly regarding deciduous teeth. Their problems in terms of convenience and availability to dentists, cost of transportation and time off work to provide transportation are much larger than for people in the city."

Results of a "three-year-old's birthday card program" were lower in rural areas.

The program, designed to reduce dental problems in children, is showing overall success, with a response

factor of 83 per cent in its three years of operation.

This year children who went through the initial program in 1964 are in Grade 1 in Kelowna and are being tested in three groups.

The groups are being compared for levels of dental health and premature tooth loss.

The 10 year aim of the program is to have more than 80 per cent of three-year-olds attending family dentists, bring the premature extraction of deciduous teeth to less than 15 per cent in Grade 1 children and bring to less than 10 per cent the rate of extraction of permanent teeth among Grade 7 students.

Since the program was instituted the premature extraction level has been "cut in half" in Kelowna and the findings are also good in rural areas.

more difficult for country people to maintain an interest in their children's dental health, particularly the primary teeth. They have a much bigger problem than city residents in terms of convenience, availability of dentists, costs of transportation and taking time off from work.

We were particularly interested in children with premature tooth loss who had participated in the card program. Parents and family dentists were contacted in each case to ascertain whether the extraction was primarily due to the parent's lack of interest in dental health. In fact, only very few such parents were completely indifferent. The commonest explanation for extracted primary teeth lay in prolonged intervals between recall appointments; teeth with deep cavities or deep fillings became abscessed during these intervals.

The results of the birthday card program were compared with the Penticton program, where a half-time dental hygienist served three year old children.¹ In Penticton, only 45.7 per cent of the children seen by the hygienist actually visited the dentist. In the birthday card program, every child who used his card attended the family dentist. The card program actually cost less in terms of money and manpower and seems to have been more effective in actually getting dental treatment for preschool children. Even those three-year-olds who did not need restorative treatment at that age seemed to continue to attend the dentist for subsequent recall appointments and restorative treatment under the program. The Penticton program failed to match this; the majority of Penticton parents were content to return to the hygienist unless they were referred to a dentist for some specific reason.

Although the availability of free topical fluoride applications did not increase the level of participation in the card program,² this feature is now included as in similar programs elsewhere in British Columbia. Such applications produce even more caries-free children in future years.

The agreed fees for each of the services provided in this program have been described in a previous article.² If all 449 eligible children had used the birthday card, the potential cost at \$12 per child would be \$5,388. The actual cost for the 305 participants amounted to \$3,600.

Conclusions

This paper describes the effect of a three year old birthday card program after four years when the children have reached Grade 1. In our opinion, this program successfully stimulates interest by parents and dentists in the dental health of preschool children. The results would be even better if we had a more effective method of finding three-year-olds than from the usual health unit records.

Doctor Gray is regional dental consultant for the British Columbia Health Branch at 390 Queensway, Kelowna.

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3 McIntosh, W. G. Manpower problems in the dental profession. Paper delivered to the annual meeting of the Canadian Medical Association in Montreal, June 22, 1967. Mimeographed.

The birthday card program receives public endorsement as attested by this clipping from the *Kelowna Courier*.

then, the participation rate has grown each year, attaining 83.4 per cent last year.

One drawback of the program is that we cannot obtain a complete list of preschool children from health unit files, and some children are therefore missed. However, we try to contact their families by announcements in the press, on radio and TV and we invite the parents to collect a birthday card for their three-year-olds from the health unit.

A further difficulty in the evaluation of this program stems from the transient nature of our population. We lose some of our three-year-olds who move away before they are six. The program is also diluted by other children who move in. In a growing area like the Kelowna district, many more children move in than out. This is important; it means that many of the parents of children now in Grade 1 were never exposed to the dental health promotion provided by the birthday card program.

We are not surprised that the city showed better results than the rural areas. In our experience, it is

Dental health and treatment needs of patients in a hospital for the chronically ill

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T. M. Curry, DDS, DDPH, Regina
K. J. Paynter, DDS, PhD, Saskatoon

The authors examined 274 patients in a hospital for the chronically ill to ascertain their individual and total dental care needs. For this purpose they used a type A level survey advocated by the World Health Organization. Dental and other examination findings were recorded on WHO type A mark sense cards. The cards, with their supplementary assignable codes, yielded sufficient information for planning a subsequent treatment program. To shed further light in the relation between oral and systemic illness, the authors urge that a standardized dental examination form part of all routine hospital admission examinations.

Les auteurs ont examiné 274 patients d'un hôpital pour malades chroniques afin de déterminer leurs besoins individuels et totaux de soins dentaires. Ils ont effectué une étude de niveau de type A recommandée par l'Organisation Mondiale de la Santé. Les résultats de l'examen (dentaires et autres) étaient inscrits sur des cartes du type A de l'OMS. Ces cartes, grâce à leurs codes supplémentaires, ont fourni assez de renseignements pour proposer un programme ultérieur de traitement. Afin d'éclaircir davantage les rapports entre maladies buccales et maladies générales, les auteurs recommandent qu'un examen dentaire standardisé fasse partie de tout examen d'admission dans un hôpital.

Dental disease aggravates the hardship of chronic illness due to physical or mental handicaps and may contribute to these disorders.^{1, 2} Sometimes the patient is even incapable of tending to his basic oral hygiene needs.

This paper describes the results of an oral survey of 274 such patients in the Wascana Division of the South Saskatchewan Hospital Centre, Regina. The survey was carried out in October 1968 to: (a) discover patients requiring immediate dental attention, including oral cytological smears; (b) identify dental care needs; (c) assess the general health of these patients as a basis for planning a program of regular dental care; and (d) secure dental health data on this particular segment of the population.

The Wascana Division provides health care for patients who were formerly at the Physical Restoration

Centre in Regina and the Regina Geriatric Centre. The geographic area served by the Wascana Division, which has a 284 bed capacity, embraces Saskatchewan Health Regions 1, 2, 3, 5 (which includes the city of Regina) and 10. These health regions constitute roughly the southernmost one-fifth of the province's geographic area with about 40 per cent of its population. About half of Wascana's patients are from Regina; the rest come from the remainder of the geographic area.³

To facilitate duplication and comparison of the data, we used the type A mark sense card and type A level of survey as described in the International Dental Epidemiological Methods Series published by the World Health Organization.⁴

The type A level of survey is designed to give "an overall assessment of the prevalence of the major dental diseases in a population with a minimum of expenditure of time and money."⁵ The oral examination requires only a disposable tongue blade, a plastic ruler for orthodontic measurements, and suitable illumination from natural light or a two-cell flashlight.

The WHO type A card (Fig 1) is used for this level of survey. Dental caries and periodontal disease are recorded according to the severest level of the disease present. The resultant data yield the percentages of individuals suffering from various levels of each disease. Treatment needs can be recorded to yield percentages of the population with no need or needs met, or requiring 1-3, 4-6, etc. restorations and extractions. Further assignable codes are available to record any additional information.

Ordinarily, type A survey data are based upon oral examination only. For a general population, they provide a reasonable estimate of dental disease levels and the types and amounts of routine treatment required by individuals or the population as a whole.

We therefore assumed that similar data could also be used to estimate dental disease levels in a chronic illness hospital. But estimates of the type and amount of dental treatment required by such a population are misleading unless they are also based on an assessment of the patients' physical and mental capacity to cope with such dental care. We used the assignable codes to record this information.

Methodology

A type A mark sense card was pre-recorded for each patient by name, sex, age, hemiplegic or non-hemiplegic status and according to the major source of medical financial responsibility (Department of Vet-

Other pertinent information, including recommendations for dental treatment based on oral and systemic considerations, was recorded under assignable codes A to I:

Code I: Time lapse since last dental visit (less than

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one year, 1-2 years, 2-3 years, more than three years).

The examinations were done in equal numbers by two experienced examiners (C.W.B.M. and T.M.C.) and randomized by wards. Each examiner was accompanied by a recorder and a staff nurse who was familiar with the patients and their medical background. The physician in charge provided additional medical information when required. The average examination time per patient was 3.7 minutes.

Results

The distribution of the Wascana Division patient population is shown in Table 1. There were 49 DVA, 195 independent and 30 SAP patients. Of these 274 patients, 86 were hemiplegic and 188 were non-hemiplegic. There were 142 men (31 hemiplegic, 111 non-hemiplegic) and 132 women (55 hemiplegic, 77 non-hemiplegic).

All DVA patients were male and non-hemiplegic. Among the independent and SAP groups, 55 of 132 (41.67 per cent) female patients were hemiplegic; 31 of 93 (33.33 per cent) male patients were hemiplegic.

Edentulous patients numbered 177 (64.5 per cent) in the following proportions — 39 (79.6 per cent) DVA, 123 (63 per cent) independent, and 15 (50 per cent) SAP.

These small numbers precluded any meaningful age-specific analysis of the various types and levels of oral pathology and other conditions. They also militated against an analysis of dental care needs in terms of sex and hemiplegic and non-hemiplegic patients. However, the raw data suggested a generally similar pattern of distribution based on these variables and indicated no particular differences or trends.

Table 2 shows the age distribution of oral pathology and other conditions by severity levels.

Age-specific filling and extraction needs and the types of appliances present are shown in Table 3.

The age distribution of other pertinent findings is given in Table 4.

Discussion

To fulfil the immediate purpose of the survey, the nurses accompanying the examiners were asked to note, for prompt attention, the patients suffering from pain or acute infection of the stomatognathic system (Table 4).

Immediately thereafter we sent to the hospital administrator the names of nine patients for whom we recommended oral cytological smears.

This was followed by a list of all patients recommended for dental care and an estimate of the type and amount of treatment required by each. Prophylaxis was recommended for patients with mild gingivitis. Periodontal treatment was recommended in patients with severe gingivitis, periodontal pockets or loose teeth.

Individual treatment recommendations were based on the data in Tables 2-4 augmented by a joint assessment of the patients' general health. They differed from recommendations which would have resulted from data confined to extractions, restorations and denture service alone. For example, an oral assessment showed 34, 43 and 40 patients who could be recommended for extractions, fillings and dentures respectively (Tables 3 and 4); but when systemic conditions were taken into consideration, these figures were reduced to 31, 31 and 26 respectively. Similarly, 177 patients were edentulous, but 120 had complete upper and lower dentures. Ordinarily, we would have recommended dentures for the other 57 patients. In fact, only 14 of the 57 were recommended for this type of service (Table 4).

We recommended prophylaxis for the 39 patients with mild gingivitis. The other 43 patients with more severe levels of periodontal disease were recommended for periodontal treatment (Table 2).

Two-thirds (177) of the patients were endentulous. This explains the low percentages of subjects with caries (28.3 per cent), severe periodontal disease, pockets or loose teeth (15.6 per cent), oral debris (29.1 per cent) and calculus (25.4 per cent) in Table 2. In view of the age distribution, a DMFT score would have had little meaning for this population.

Advanced stages of dental decay were included under "emergency dental care" whenever prompt attention was necessary to save the tooth. Patients with advanced periodontal disease or referred for a cytological smear were also included in this total.

Item G, Table 4 ("number of opposing teeth in contact") gives some indication of masticatory efficiency even though it refers only to natural teeth. Four out of five patients (78.8 per cent) had less than 12 teeth in contact.

Item I, Table 4 ("time since last dental visit") indicates that DVA patients received more frequent dental attention than the other two groups—and reinforces the need for periodic dental examination of chronic hospital patients.

Distribution of Wascana Hospital patients by age groups, sex, paralytic status and source of financial support. October 1968 Table 1

Group	<6		6-10		11-20		21-30		31-40		41-50		51-60		61-70		71-80		81-90		91-100																				
Source of	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	NP	P	Total																		
support	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F																			
DVA											3		7		9		15		12		3		49																		
independent	1	1		4	2		3		1	3	4	1		3	1	1	5	1	5	6	4	3	7	5	5	9	10	15	11	7	14	23	4	20		9	1	195			
Saskatchewan Assistance Plan		1		1		1		1	1	2	1		1		1	2		2		1		1	2				5	1	1		1		1		1		30				
Total	1	2		5	2	1	4		2	4	6	2		4	1	1	9	3	2	5	14	6	4	3	17	5	5	10	27	15	11	12	27	24	4	21	3	10	1	1	274

P, paralytic. NP, non-paralytic

Age-group and severity distribution of oral pathology and conditions in patients at the Wascana Hospital, Regina

Table 2

Type and severity or level of oral condition	Patient group															Total	
	DVA					Independent					Saskatchewan Assistance Plan						
	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	No.	%
Dental caries :																	
none			6	8	25	6	7	4	21	101	2	3	1	2	10	196	71.5
pit or fissure						5			1	2	4				1	13	4.7
posterior interproximal		2			3	9	3	10	4	6	3	1			1	42	15.3
upper anterior interproximal			1		2	3		1								7	2.5
labial		1				1		1		1			1			5	1.8
lower anterior interproximal				1		1	2	2		4	1					11	4.0
Periodontal disease :																	
none		1	6	8	25	9	5	6	20	95	2	2	1	2	10	192	70.0
mild gingivitis		2	1		3	12	5	2	2	3	7	1			1	39	14.2
severe				1	2	2		3	3	4	1					16	5.8
pockets						2		3		5			1			11	4.0
loose teeth							2	4	1	7		1			1	16	5.8
Oral hygiene debris :																	
none		1	6	8	25	9	5	6	20	95	4	2	1	2	10	194	70.8
<1/3		2	1	1	4	12	5	4	3	4	5	1	1		1	44	16.0
1/3 - 2/3					1	4		3	3	9	1				1	22	8.0
>2/3							2	5		6		1				14	5.1
Calculus :																	
none		2	6	8	25	14	5	6	20	95	7	2	1	2	11	204	74.4
<1/3		1	1	1	4	8	5	6	3	5	2	1	1			38	13.8
1/3 - 2/3					1	3		1	3	8	1				1	18	6.5
>2/3							2	5		6		1				14	5.1

Age-group distribution of need for fillings and extractions, and types of appliances present in patients at the Wascana Hospital, Regina

Table 3

Type of need and appliances present	Patient group															Total	
	DVA					Independent					Saskatchewan Assistance Plan						
	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	No.	%
Fillings:																	
none						7	7	5	23	67	1	3	1	1	11	126	45.9
completed		1	6	8	27	7	3	9	1	39	3			1		105	38.3
1 - 3 needed		1	1	1	2	11	1	3	2	4	3	1	1			31	11.3
4 - 6 needed		1			1		1			3	3				1	10	3.6
7 - 10 needed								1		1						2	.7
>10 needed																	
Extractions:																	
none						10					2		1		1	14	5.1
completed		1	7	8	28	13	10	13	23	102	7	2	1	2	9	226	82.4
1 - 3 needed		1		1	1	1	2	2	2	5		2				17	6.2
4 - 6 needed		1			1	1				3	1				1	8	2.9
7 - 10 needed										2						2	.7
>10 needed								1		1						2	.7
all remaining teeth								2	1	1					1	5	1.8
Appliances:																	
none		2	2	3	9	23	4	12	10	33	9	2	1	1	4	115	41.9
complete upper denture		1	1	0	4		1	2	2	15	1				2	29	10.5
complete lower denture										1						1	.3
complete upper and lower dentures			4	6	16	1	4	3	12	64		2	1	1	6	120	43.7
partial denture and bridge							2	1	2	1						6	2.1
partial bridge and denture					1	1	1									3	.9

Assignable codes	Patient group															Total	
	DVA					Independent					Saskatchewan Welfare Plan						
	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	<40	41-50	51-60	61-70	>70	No.	%
A Lesions of the oral mucosa, lips and mouth : none positive		3	7	8 1	27 3	25	11 1	16 2	26	110 4	10	4	2	2	12	263 11	95.9 4
B Oral cytology smear : not recommended recommended		3	7	8 1	28 2	25	11 1	17 1	26	110 4	10	4	2	2	12	265 9	96.7 3.3
C Pain of dental origin : none positive		2 1	7	9	29 1	24 1	11 1	17 1	26	113 1	9 1	4	2	2	12	267 7	97.4 2.6
D Pain of other origin : none positive		2 1	7	9	30	25	12	17 1	26	110 4	9 1	3 1	2	2	12	266 8	97.0 3.0
E Emergency care recommended : none dental soft tissue both		2 1	7	8 1	26 2 2	11 5 8 1	6 1 2 3	5 4 5 4	21 3 1	97 4 6 7	3 3 3 1	1 1	1	2	10 2	200 27 28 19	72.9 9.8 10.2 6.9
F Disfiguration : none cleft palate cleft lip cleft lip and palate severe malocclusion anterior missing teeth other		3	7	9	30	20	11	18	26	113	7	3	2	2	12	263	95.9
						5				1	2 1					8 2 1	3.0 .7 .3
G No of opposing teeth in contact : under 12 12 or more		1 2	6 1	9	28 2	4 21	7 5	10 8	23 3	107 7	3 7	3 1	1 1	2	12	216 58	78.8 21.2
H Dentures needed : none complete upper and lower complete upper complete lower partial only partial and complete two partials reline		2 1	5 1	6 3	22 3 2 1 1 1	24 1 1	12	17 1	25 1	98 5 5 1 5	9 1	3		1 2	10 1	234 14 0 12 5 0 1 8	85.4 5.1 4.3 1.8 .3 3.0
I Years since last dental visit : Less than 1 1 - 2 2 - 3 More than 3		3	7	8 1	28 1	7 6 3 9	4 1 1 6	4 1 3 10	2 1 2 22	12 1 0 101	1 5 1 3				1 1 1 11	77 16 12 169	28.1 5.8 4.3 61.6

A dental program was planned on the basis of these combined data. The estimated work load for dental, dental hygiene, and dental assistant personnel was translated into clinical time. Space, physical requirements and equipment needs were determined from the number of ambulatory and non-ambulatory patients and the type and amount of dental care which they needed.

Data from a dental examination, performed as part of the general medical examination of all hospital admissions, may further elucidate the relation between oral and systemic diseases. However, the type A level of survey is inadequate for this purpose. It would have to be supplemented by a more precise method of dental disease evaluation.

Hospital dental staff members, aided by senior dental students when feasible, could perform such oral examinations in chronic and active bed hospitals. The time required for such examinations can be judged from the volume of daily admissions. At the University Hospital, Saskatoon, with a 546 active bed capacity, the daily admissions average between 35 and 40.⁶

Unlike the estimates of Lightman, Thompson and Grainger⁷ who reported denture needs on admission to a home for the aged, our data were obtained at various time intervals following admission to hospital. Consequently, they apply only to the inmates of our particular hospital; they cannot be used as an estimate of oral health conditions in this segment of the general population.

The 274 cards in our study were sorted manually and the data were compiled in a similar manner. This method is adequate for hospitals with 300 beds or less. It is simple, rapid and comparatively inexpensive. Most of the work can be done by clerks who require only brief orientation. The McB marginal punch card can also be used to obtain this level and quantity of data. A computer would be valuable for larger hospitals and for long-term studies. However, a great deal of useful information can be obtained quite easily with a mechanical card punch and card sorter.

Conclusions

1. Our observations confirm that dental diseases add significantly to the disease burden of physically and mentally handicapped inmates of a chronic illness hospital.

2. Their oral disease levels and treatment needs should be assessed at regular intervals.

3. Further information is needed to ascertain the relation between masticatory efficiency and general health in these patients.

4. The WHO type A card with additional assignable codes can be used in chronic illness hospitals or other institutions where patients have a known level of physical or mental handicap. The card yields data on the level of dental disease and other oral conditions. It also becomes a source of information for comprehensive treatment needs based on the patient's oral and systemic condition and his physical and mental capacity to cope with such treatment.

5. The data secured in this way provide a more accurate estimate of individual and total dental needs in a chronic illness hospital.

6. If routine admission examinations in chronic and active bed hospitals included a standardized method of dental examination, the resultant data would help to elucidate the relation of oral and systemic diseases.

Summary

A dental survey of 274 inmates of a chronic illness hospital was carried out in October 1968 by two dental examiners, using the WHO type A card with additional assignable codes. Purpose of the survey was to estimate oral disease and dental care requirements in these patients. Oral and systemic conditions were taken into consideration in assessing treatment needs. The data were used in planning a dental treatment program for the institution's patient population. Similar dental examinations, if incorporated into hospital admission procedures, may provide further information about the relation between oral and systemic disease.

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1 del Rosario, Viela B. Prevalence and significance of dental diseases and conditions affecting the patients of the Toronto Western Hospital. Thesis (Dip Perio), Faculty of Dentistry, University of Toronto, 1968.

2 US Department of Health, Education and Welfare. Dental care for the chronically ill and aged. Washington, US Government Printing Office PHS No 899, 1961.

3 Fyke, K. A. Acting administrator, Wascana Division, South Saskatchewan Hospital Centre, Regina. Personal communication.

4 World Health Organization. International dental epidemiological method series. Manual No 1. Part 1. Introduction and general methodology (Field trial edition). Geneva, 1967.

5 Idem. International dental epidemiological method series. Manual No 3. Dental health evaluation: level "A" survey (Field trial edition). Geneva, 1967.

6 Taylor, A. W. Medical director, University Hospital, Saskatoon. Personal communication.

7 Lightman, Irwin, Thompson, G. W. and Grainger, R.M. Denture needs of a group of Toronto aged. J Canad Dent Ass 35: 40, 1969.

Physicians' Incomes Rise 10 Per Cent – The average gross professional income of self-employed physicians climbed to \$38,675 in 1967, according to the Department of National Health and Welfare. The figure represents an increase of nearly 10 per cent over the previous year – the highest jump in a 10 year span. If expenses for practice are subtracted, the average net income for physicians shows a higher rate of growth, climbing by 12.2 per cent in 1967 to \$26,093 from \$23,262 in 1966. This rise substantially surpassed the average annual rate of increase in net income of 7.4 per cent in the 1957-67 period. Physicians' net earnings from all sources rose more rapidly than those of other self-employed pro-

fessionals in the 1957-67 period. For physicians, the rate of increase was 95.4 per cent; dentists, 78.6 per cent; lawyers and notaries, 66.2 per cent; consulting engineers and architects, 15.6 per cent; and accountants, 33.4 per cent. Net earnings of physicians moved from a level 4 per cent below those of architects and engineers to an average 23.7 per cent above those categories in the 10 year period. Average net income from all sources of physicians for 1967 was \$27,347. Consulting engineers and architects were at \$22,111 with lawyers, \$22,014; dentists, \$18,272; and accountants, \$14,517.

Dentistry's own inflation fighter

On June 20, 1945, Brantford began to fluoridate its water—the first Canadian municipality and the third in the world to take this progressive step. Now, 25 years later, more than 6½ million Canadians are drinking fluoridated water.

Though we have reason to be happy at this impressive gain, we cannot relax our efforts as long as 14½ million Canadians remain beyond fluoridation's reach. More than 8 million of these people are served by piped drinking water which could be fluoridated.

During this time of economic stress, we should also remind our fellow citizens that fluoridation makes a major contribution to the national effort aimed at defeating the corrosive effect of inflation. We must not hesitate to tell them about the recent six year study reported by Ast et al¹ which shows that the cost of dental care for children with lifelong exposure to fluoridated water is about half the cost for children in a non-fluoridated area. Findings like these confirm former health minister Allan MacEachen's contention that "fluoridation is the most effective, the safest and least costly method of reducing the need for dental care." They add an important dimension to the benefits of fluoridation, one that should be told to the Canadian public in clear and unmistakable terms.

The battle for fluoridation rolls on relentlessly against what sometimes seems like discouraging odds—as in New Brunswick, in Montreal and in British Columbia. But dentists have a duty to promote the measure as long as there are Canadians who can be served by fluoridated water.

Seven American states have moved to close the gap in their territory by making fluoridation mandatory through state law. Connecticut led the way five years ago. Minnesota, Illinois, Delaware, Michigan, South Dakota and Ohio have followed. Our 10 provinces that do not have such laws should also have them—now!

¹ Ast, D.B., Cons, N.C., Pollard, S.T. and Garfinkel, Joseph. Time and cost factors to provide regular, periodic dental care for children in a fluoridated and non-fluoridated area: final report. J Amer Dent Ass 80:770, 1970.

Dentists and the inflation psychology

The money markets have shown some improvement in the last few months, but the mortgage sector is still depressed. Lenders are short of cash and buyers are resisting the current 10½ per cent mortgage rate.

The majority of new housing loans this year have come from the trust companies. Banks and life insurance companies are still nursing their short supplies of cash. When cash is available they are preoccupied with rebuilding liquidity and picking up trading gains in bonds.

Until recently, trust companies were paying 8¼-9 per cent for the five year term deposits they normally use for mortgages. Competition for deposits has been so intense that their five year rate has stayed high while shorter rates have dropped. Consequently, mortgage rates are unlikely to dip until the banks begin to step up their mortgage activity. The first hint of lower rates may not show until the various institutions begin to adjust their deposit rates.

Meantime, those of us who carry mortgage debts are apt to welcome soaring interest rates as an opportunity to pay off that indebtedness with cheap money. But high interest rates are also inflationary and tight money does not necessarily cool an overheated economy. In fact, both can have the very opposite effect, prompting industry to raise its prices and provoking unbridled wage demands from labour. Trapped in between is the professional man who then raises his fees because he wants to stay abreast of escalating costs. Caught in a rigid spiral of cause and effect, each blames the other for his actions and thus feeds the inflationary psychology that grips the nation.

Increased productivity, price restraint, moderation in wage settlements and individual self-discipline—these are the essential ingredients of the medicine needed to break inflation's stranglehold. Dentists can aid in several ways: by maintaining and not increasing their fees during this critical period, by telling their patients what they are doing about fees and why they are doing it, by making things last a little longer and spending their dollars judiciously.

Given the dimensions of inflation, each individual contribution may seem small. But health care is a material factor in our economy and private practitioners are an important element of health care. The significance of their aggregate performance is therefore self-evident. The alternatives to a workable voluntary program are too real and too unpleasant to be ignored.

Le Livre Blanc fera du tort aux dentistes

Lorsque l'Association Dentaire Canadienne a comparu aux auditions publiques du Comité permanent du Sénat sur les affaires bancaires et le commerce, les représentants de l'ADC n'ont pas manqué de mettre les points sur les "i" et de démontrer concrètement que le Livre Blanc sur les réformes fiscales portera préjudice à la profession dentaire.

Comme nous ne pouvons pas reproduire ici, faute de place, tout le texte du mémoire, voici, en exemple, comment l'association nationale des dentistes canadiens a défendu la comptabilité de caisse que le gouvernement veut abolir.

Dans le Livre Blanc le gouvernement a proposé de prescrire aux dentistes de déclarer leur revenu selon la comptabilité d'exercice au lieu de la comptabilité de caisse qui est actuellement autorisée et de faire entrer dans leur revenu les créances et travaux en cours à la date d'application du nouveau système. Le gouvernement estime que l'ajournement d'impôt que permet la comptabilité de caisse procure aux membres des professions libérales un avantage fiscal injustifié en comparaison du reste des Canadiens.

L'Association a soutenu fermement qu'il n'y a pas "d'avantage injustifié" et que la proposition elle-même était injustifiée car:

(a) Les employés (la majorité "du reste des Canadiens") doivent payer l'impôt seulement sur l'argent reçu au cours d'une année fiscale et suggérer qu'un dentiste (membre des professions libérales) doive payer l'impôt sur l'argent qu'il n'a pas reçu constitue une injustice et n'est pas conforme à l'objectif d'équité entre contribuables qu'avance le gouvernement. Les fonctionnaires du Ministère du Revenu National reconnaissent que les créances et travaux en cours n'équivalent pas à de l'argent car ils n'acceptent pas le transfert de ces actifs en paiement d'arriérés d'impôt.

(b) Un homme d'affaires qui paie l'impôt sur un revenu calculé d'après la comptabilité d'exercice possède d'ordinaire des inventaires qu'il peut donner en garantie à sa banque pour emprunter de quoi payer son impôt sur le revenu. Un dentiste ne peut donner son travail en cours comme garantie de prêt.

(c) Si la proposition était acceptée, les dentistes qui viennent de recevoir l'autorisation d'exercer devraient non seulement entreprendre d'importantes immobilisations pour établir leur cabinet mais devraient aussi payer l'impôt sur des sommes non perçues et du travail non facturé. On peut facilement imaginer dans les faits une situation où le dentiste devrait payer l'impôt sans disposer d'aucun argent à cet effet.

(d) Il serait difficile d'évaluer le travail en cours pour tous les services dentaires et surtout pour les services en cours qui ne devraient se terminer qu'après la fin d'une période fiscale, par exemple, les travaux de pont et d'orthodontie.

(e) La comptabilité d'exercice exigerait que les dentistes consacrent à tenir des registres financiers complexes un temps et une énergie qui seraient mieux employés à fournir des services de santé.

(f) Des difficultés considérables apparaîtraient pour évaluer raisonnablement les créances douteuses ou irrécouvrables, surtout lorsque les services ont été rendus sur une base humanitaire. De plus, certains régimes dentaires paient les honoraires dentaires selon certains taux et le dentiste ne sait pas toujours quel pourcentage des comptes payables par ces régimes lui sera versé.

(g) Afin d'éviter les pertes de temps, le dentiste devrait faire appel aux services de personnes qualifiées en comptabilité ce qui aurait pour résultat d'élever ses frais de fonctionnement et le coût des soins dentaires. Ces services comptables risquent d'être introuvables dans les zones rurales où les dentistes sont déjà surchargés et où leurs soins ne suffisent pas à la demande.

(h) Le dentiste ne fournirait pas volontiers ses services sachant que le compte ne serait pas payé avant un certain temps. Un grand nombre de dentistes a exprimé l'opinion que si un dentiste est tenu de payer l'impôt sur les sommes à encaisser, il aurait naturellement tendance à réduire au minimum les sommes à encaisser si bien qu'il exercerait selon le système de caisse. Toute mesure visant à restreindre le crédit entraînerait le refus des services dentaires jusqu'à ce que les personnes disposent de fonds suffisants pour payer ces services.

(i) Puisque la réduction à 50 p.c. des taux d'impôt applicables aux revenus supérieurs ne sera pas achevée avant 1976, les dispositions transitoires—qui prévoient d'inclure le plus élevé soit du revenu calculé selon la comptabilité de caisse soit du revenu calculé selon la comptabilité d'exercice—risquent de placer le dentiste dans les tranches d'impôt élevées au moment où les taux d'impôt sont plus forts qu'ils ne seront en 1976.

L'Association a donc recommandé le maintien de la méthode de comptabilité de caisse que les dentistes sont actuellement autorisés à employer car: (a) Il n'existe pas "d'avantage fiscal injustifié en comparaison du reste des Canadiens", (b) Les effets défavorables de l'emploi de la comptabilité d'exercice non seulement sur les dentistes mais aussi sur leurs patients dépassent largement tout avantage à en tirer.

Le mois prochain, nous discuterons les autres sujets touchés dans le mémoire de l'ADC.

Ontario Council of Health

In order to evaluate the report of the Ontario Council of Health and your editorial on the report, I would like to state at the outset where I agree and disagree with the report.

The Council states that, due to various factors which presently exist in our socio-economic environment, it believes that there will be a substantially increased demand for dental services. I concur with this statement. The report goes on to say that the exact mix of dental and auxiliary dental manpower for Ontario must relieve dentists of many tasks so that they may fully apply their knowledge and skill to solve problems which only they are qualified to deal with. Again, most of us would agree with the logic in this latter statement. The Council's Committee on Manpower further states that water fluoridation and topical application of fluoride should be extended and that dental programs for school children and the social assistance group would bear heavily upon manpower needs. Here, again, their philosophy coincides closely to that of the Ontario Dental Association's "Blueprint for the Delivery of Dental Care."

However, I cannot agree that there is anything cryptic in the statement of the Ontario Council of Health proclaiming its acceptance of modified methods of delivering dental care pending the outcome of further study and demonstration projects. This seems eminently more logical to me than the Manpower Committee's recommendations to embark full speed ahead on a mass recruitment and training program for dental associates and therapists before a pilot project has proved their effectiveness, their ability to produce a high standard of dental care, and then delineated their duties.

The Manpower Committee seems to believe that, if we are to improve the dental health and the dental service our citizens receive, it should begin with children. I agree with this concept, but I differ strongly with the methods and priorities and with the mix of professional and auxiliary personnel advocated by the Committee. I cannot agree with a system which makes it acceptable that children receive most basic forms of treatment from personnel who

have had two years of training (even if these persons were under the supervision of a dentist), but requires that adults be treated by a more highly trained individual (the dentist) whose training requires five years. Such a philosophy is analogous to allowing surgical nurses to perform tonsillectomies and appendectomies on children, yet requiring that only surgeons may perform the same operations on adults.

I do agree that, as your editorial so emphatically states, "the manpower problem must be solved and that the dental profession must take the lead in formulating solutions to this complicated question." However, I cannot agree with your approval of the Dental Services and Auxiliary Services Committees' resolution as a reasonable basis for the orderly development and expansion of dental health care. In my estimation, this resolution would only open up a whole new can of worms and allow everyone to "do their own thing," because the wording of the resolution leaves far too much latitude for subjective interpretation of whatever duties do not require the professional knowledge and skill of the dentist. Since the licensing bodies of each province must pass legislation to bring about the changes recommended and since, for medico-legal reasons, the duties requiring professional skill and knowledge of the dentist must be spelled out, why not delineate these duties at the outset and incorporate them as part of the resolution? Unless this is done, I see little hope for passage of the resolution which has already been defeated twice now by the Board of Governors.

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I am pleased that your May editorial drew attention to the first report of the Ontario Council of Health, a body now enshrined in Ontario statute law (The Department of Health Act, 1968/69) as the senior advisory body on health to the Minister of Health and to the Government of Ontario. The report is a prodigious and important document. Its 118 pages explain the role and function of the Ontario Council of Health. They summarize the reports adopted by the Council, and list the recommendations submitted to Council by its eight primary committees. The reports of the committees, in turn, are being published separately as annexes to the main Council report.

In commenting on the proposals of the Committee on Health Manpower in respect of dentistry it is important to

understand that the 17 recommendations numbered 15-31 were simply received by the Council; they are not recommendations of the Council but proposals to the Council from the Committee on Health Manpower. The Council was not persuaded that these specific recommendations were the best that could be advanced, but it did accept the basic philosophy of the recommendations—all of which are directed to modified methods of delivering dental care and the development of resources for these purposes. The Council also accepted the need for demonstration projects and urged action in this regard.

May I, Mr. Editor, reinforce your words: "The dental manpower problem isn't going to go away. Instead, it must be solved. And the dental profession must take the lead in formulating solutions to this complicated situation."

With you, I hope the Board of Governors, this year, recognizes the wisdom of acting vigorously and affirmatively on the resolution being submitted (again) by the Auxiliary and Dental Services Committees. I hope, too, that the provincial dental licensing authorities, in their turn, act expeditiously to assure a regulatory environment for the practice of dentistry which will make possible the implementation of the principle which recognizes that the dentist, as a responsible licensed practitioner, is capable, without regulatory circumscription, of delegating to allied personnel over whom he exerts effective supervision such duties as do not require the professional knowledge and skill of the dentist.

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Thank you for the opportunity to comment on your May editorial and some aspects of dentistry to which our CDA Auxiliary Services Committee has devoted a lot of time.

The 18 proposals from the Health Manpower Committee were simply proposals to the Ontario Council of Health. Possibly the Council will come up with some recommendations.

I believe that the Ontario Council of Health accepts the philosophy of an alternate method of delivering dental services but, if I interpret the editorial properly, the Council has not been fully informed about relevant work that has already been done. I refer to the Alabama, New Zealand, British and Royal Canadian Dental Corps studies and, above all, to the project conducted at the US Public Health Service Dental

Manpower Development Centre in Louisville, Kentucky.

I question the economic value of "therapists" (upgraded hygienists) with expanded duties. Hygienists are too scarce and their services are too valuable in other fields such as teaching, supervision and administration to have them perform expanded duties in technical dentistry. This is a role for a trained clinical dental assistant.

The Manpower Committee has recommended that "the province should devise some form of financial arrangement to encourage private practitioners of dentistry to employ dental therapists." Anyone who agrees with the philosophy of multiple staff and delegation of duties would then be beholden to any government agency for financing the operation. This, it appears to me, is a natural form of government takeover; and once the commitment is made, it is then a very short step to government control of one's practice.

Well trained auxiliaries that deliver technical dental services are not the complete answer to all our problems. Some practitioners are administratively or temperamentally unsuited to this type of situation. An alternative should therefore be available for those who are interested in the delivery of high quality dental services for more people. Government should not be called in to finance the practice.

As you mention, there is nothing revolutionary about the Council's proposals. They do reflect concepts that have been espoused for more than a decade. The difference is that it is now 10 years later, and nothing constructive has ensued. In fact, two resolutions advanced by the Auxiliary Services Committee have been defeated.

Even if something is done in one particular way for a 100 years, this does not necessarily make it right for today's environment. And those who believe in serial listing of duties as a medico-legal protective device should remember that it is *always* the dentist who is responsible — so why list the duties? Responsibility is inherent in licensure of a professional man.

The Auxiliary Services Committee believes that the resolution to be submitted to the Board of Governors in July provides a reasonable basis for the orderly development and expansion of health care. If the profession eschews a leadership role and if it will not prepare for situations before they arise, there will again be panic when other agencies make decisions for us — and then it will be our own fault.

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Fees and inflation

In February the CDA Executive Council, on behalf of the Association, passed a motion urging its corporate members to postpone or limit dental fee increases during the year 1970. In my opinion, because the dental profession is a major profession and because it was requested to do so by the federal government, our Executive Council followed the only proper course.

Ordinarily the Canadian body does not concern itself with fee structure as this is and always has been a provincial matter. Even the fee schedules set up by the provincial bodies are only "guides" or "standards" to the individual members and are not necessarily followed by them. Ultimately, acceptance of the principle of fee restraint by individual members of the profession will determine whether or not dental fees will increase during 1970. I feel that the great majority will follow the recommendation of the Canadian Dental Association and will restrain or limit fee increases during this period. Thereafter, however, we must look very hard at four questions:

1. Will the members of government take a healthy increase in salary and benefits?

2. Will labour accept the same principle of voluntary wage stabilization? It shows no sign of this at present.

3. Certain proposals in Mr. Benson's white paper would impose tremendous administrative financial strain on every member of the dental profession. If adopted, large dental fee increases would certainly be necessary.

4. Is voluntary wage and fee stabilization working? If the inflationary spiral shows no signs of abating, we could assume that our voluntary efforts are not helping.

Therefore I suggest that as individual members of the CDA and its corporate bodies we should support the motion of the Executive Council and do our best to maintain present fees at least until the end of this year. At that time, results and implications of the above four points should receive close scrutiny.

One further thought . . . although galloping inflation is a sure road to disaster, I doubt whether full employment and a prosperous economy are possible without some degree of inflation.

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Moncton, NB

One of the major causes of fee increases is the ever rising cost of materials. May I suggest that members of the profession object to suppliers in the

strongest terms when they are frankly overcharged? Two of the most popular filling materials—alloy and synthetic resins—are cases in point. In Europe high quality alloy costs about \$3 an ounce. Here the same alloy is about \$6. Recently, a new synthetic resin has appeared. The price for a package of this material is \$65. If we are to control this sort of grotesque overcharging, we must simply refuse to buy the product.

In the case of alloy, one must "shop around." With new products, the profession should boycott them and continue with traditional materials until the price is brought out of the realm of fantasy. When overcharged for spare parts (I recently paid \$20 for eight feet of aspirator hose) colleagues must inform each other so that the unwary can avoid buying from makers who value their products as though they were made of platinum.

If we work at it, we may not need new fee schedules.

T. C. Webb, DDS
Dental Centre
Gibsons, BC

I wish to refer back to my article in the March Journal concerning misinterpretation of the recent Canadian Medical Association fee policy.

Your rebuttal quoted a *Canadian Medical Association Journal* with an article on "freeze the fees." I took the trouble to research this article in the February 14 CMA Journal and found that this "freeze the fees" is not an official Canadian Medical Association policy statement but is yet another misinterpretation by yet another journalist named Gerald Waring.

My comment—this is "heresay" squared. In matters of policy, at least, could our journal issue properly documented statements from original sources?

D. H. Jenkins, DDS, BDS, MScD,
Dip Orth
286 York Mills Rd
Willowdale 431, Ont

The report on page 110 of the March Journal reflects the action taken by the Canadian Medical Association on January 16. Mr. Waring's article in the February 14 CMA Journal provides supplementary interpretation. Mr. Waring, an Ottawa correspondent employed by the Canadian Medical Association, contributes regularly to the CMA Journal. The words, "freeze on fee schedules," reflect his personal style of writing but do not alter the CMA's position which asked its members to practise voluntary restraint to help curb inflation. (Ed.)

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

Annual reports have been received from the various councils and committees which carry on Canadian Dental Association activities throughout the year. These reports describe the year's work, ask for future guidance from the Board of Governors, and propose Association "policy" for the coming year.

In all, there are some 24 reports which are being edited, retyped, printed, collated and inserted in the agenda books for advance distribution to those who will participate in the sessions of the Board at Winnipeg. Every effort is being made to have the distribution of these agenda books as far in advance of the Winnipeg meetings as possible. Late receipt of original reports continues to interfere with the best of intentions in this respect.

Survey of practice

Computer printouts and analyses of the information obtained through the 1968 CDA Survey of Dental Practice in Canada have turned out to be much more costly than was originally anticipated. In the five year interval since the last CDA dental practice survey these costs have increased approximately sevenfold. It is important to have this information analysed and reported so that the Association can speak from factual knowledge rather than hearsay, and so that the Association can be the undisputed authority on national figures for costs of conducting practices, dental incomes, the effect of auxiliaries and variations in equipment on dental practices. The news media and agencies of both provincial and federal governments are regularly after this type of information from Mrs. Brown, the director of the Association's Bureau of Economic Research.

It seemed logical that if governments were to make use of this information, they should have some obligation toward its development.

On this basis an application for approximately \$20,000 was made to the Hon. John Munro, Minister of National Health and Welfare, under the federal government's new \$1 million National Health Grant. National associations may apply directly to Ottawa for assistance with research projects under this grant. The details of the expenditures were of course all worked out and included in the application. Mr. Munro wrote back

that dentistry did not have a high enough priority, and therefore he was unable at the present time to grant our request.

We then turned to the public health grant mechanism and applied first through Alberta and then through Ontario because applications for the federal public health grants must be processed through a provincial government. In each case we received a polite "No."

At the suggestion of "friends" in Ottawa it was decided to try the new National Health Grant once more. On the fourth try, I am happy to inform you, a degree of success was accomplished. A sum of approximately \$13,000 has been granted to the Association for the 1969-70 fiscal year and we have hopes the remainder may be available out of next year's federal budget.

The important statistical analyses in preparation for reporting is now on its way and we hope to have the final reports available in the near future.

Tax brief

On April 15, President-elect W. J. Spence, Past President Henri Brouillet, H. N. Beach, chairman of our subcommittee on taxation, Mr. M. L. O'Brien, legal counsel, and I appeared before the Senate Committee in support of the CDA brief on Mr. Benson's white paper on tax reform. We were asked to be at the committee room at 9:00 am, only to find we were fourth on the order paper for the day. Our turn came at 2:15 pm. The delay did however provide an opportunity to become oriented to the committee procedure and method of questioning. It was also interesting to hear the comments pertaining to the other briefs.

I introduced the CDA representatives to Senator Hayden, chairman of the committee and the honourable senators. Doctor Spence then made an introductory statement and drew attention to the main recommendations in our brief. The senators frequently asked questions or sought more elaboration about specific recommendations. At this stage questions were fielded by one or more of the dental team.

The most interesting aspect of the hearing was that at no time did the senators appear to be arguing any of the points made in our brief. On the contrary, there seemed to be an air of agreement and in some instances even an encouragement to go further in our requests. For example, one senator suggested that we might ask for a fixed percentage of income as a deductible item for continuing education. Another expressed the opinion that certain "business expenses" including memberships in clubs and entertainment related to building a practice should be allowed as deductible items.

The two points we attempted to stress most forcefully were the Association's objection to putting dental offices on the accrual system and the need for greater allowances for educational expenses, both undergraduate and graduate. No arguments were raised against either of these recommendations.

Our hearing lasted about an hour and 15 minutes. We were told by two of the committee members that the Association's brief was one of the better ones they had received.

Following the hearing before the senators, we also appeared before the House of Commons committee studying the white paper on May 14.

Fluoridation Canada, 1970

Paul Goldstein,
Toronto

Water fluoridation has made impressive gains since its introduction in Brantford, Ont, exactly 25 years ago. More than 6.6 million Canadians now use it—that is, 31 per cent of the total population or 45 per cent of the possible total on piped water—but two out of three Canadians are still deprived of this public health benefit. Paul Goldstein concludes that this is no time to relax the fluoridation effort. He gives a closeup view of what is happening on the fluoridation scene and suggests what dentists, other health professionals and citizens can do to promote its extension.

Public health officials who hesitate to release results following fluoridation of their communities' water supplies are asking for trouble.

Ironically, those officials who hold back such figures from the public do so with good intentions, says Lloyd Bowen of the CDA's Bureau of Public Information.

It's been 25 years since Brantford, Ont, became the first Canadian municipality—and third in the world—to fluoridate its drinking water.

This twenty-fifth anniversary of controlled fluoridation in Canada gives cause for reflection on what's been happening and what's going to happen.

Bowen has followed the progress of fluoridation in Canada for the last 10 years. He's probably Canada's foremost authority on who's doing what on fluoridation.

One thing that bothers him is the intent of many public health directors to play down or even withhold information on how fluoride has affected tooth decay in their cities and towns.

The fear obviously can't be that fluoride doesn't work. In every known case in the world, fluoride has been shown to work effectively against tooth decay. It takes at least four years before any findings become significant. The findings have shown fluoride to be completely safe and to reduce tooth decay by about two-thirds.

However, officials in most centres have had their fill of controversy. Public-spirited groups which campaign for fluoridation have run headlong into opposing forces—some which callously dub it "rat poison."

The news media give the fluoridation battles front

page coverage and many politicians and civil servants find themselves dead centre in a whirlpool of charges and counter-charges.

So once fluoridation goes into effect, some of them decide to "play it cool."

"They don't want to stir up another hornets' nest," says Bowen. Some of these officials have since reversed their stand, either under advice from CDA or the hard way—under heavy pressure from the news media.

Gains and set-backs

The media's stand is that the public has a right to know. But others who still hesitate are treading on thin ice. Look at what happened in the 27th largest city of the United States.

Kansas City, Missouri, a city of 475,000 people, had been fluoridated for several years, but the officials didn't release figures or remind the public frequently that it was benefiting from its treated drinking water.

Then it happened. A small but vociferous group started a scare campaign and forced a vote several years ago. The minority did a great publicity job. Fluoridation was halted after a plebiscite.

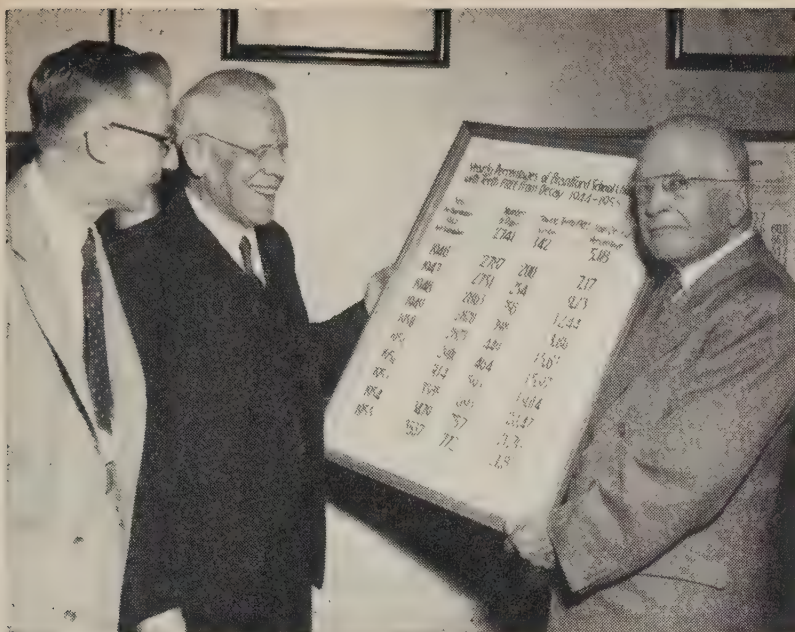
There was no way this could have happened if Kansas City officials had educated the public constantly with cold, hard facts, says Bowen.

The people of Kansas City didn't know how well off they were, especially where their children were concerned. The city hasn't returned to fluoridating its water.

Bowen can see the same thing happening in Canada, especially in Ontario, where only 10 per cent of a municipality's population can force a plebiscite—anytime before and after fluoridation has begun. This situation was created by the Ontario Fluoridation Act of 1961.

Doctor W. E. Page, medical officer of health for Brant County in which Brantford is located, doesn't think Canadians are as "hysterical as Americans" to vote fluoridation out overnight.

But he's all for continuing campaigns to inform the people. Hamilton, Ont, is "in a very nervous position," says Doctor Page. The city has had treated water for a couple of years—and has suffered through three



Brantford fluoridation pioneers D. B. Williams, water chemist, the late W. L. Hutton, MOH, and the late B. W. Linscott, school dentist, display early results of fluoridation.



L. A. Pequegnat (second left), former Toronto medical health officer, samples Brantford water. The others are (left to right) the late A. E. Berry of the Ontario Water Resources Commission, the late L. A. Clarke, Hamilton MOH, and R. M. Grainger.

plebiscites. There's a current minority movement on for a fourth, he says.

Hamilton will likely stay fluoridated, but the numerous plebiscites are a tremendous waste of tax money, he adds.

Doctor Page and his right-hand dentist, Doctor Birty Williams, make sure the press is notified of any news in the fluoridation area.

The subject is mentioned in every annual report and at board meetings a few times a year to which the press is invited.

The Brant County Health Unit has also a topical fluoride program for the rural areas where the water hasn't been treated. Dental hygienists tour schools in these areas each year to coat teeth with a fluoride solution.

"When I look in the mouths of students in this county, I can tell who has been brought up on Brantford water. Brantford children have sounder teeth, fewer cavities and fewer missing teeth," says Doctor Page. "It's obvious to any dental hygienist we send out in the non-treated rural areas to see the great difference."

Doctor Williams said that the topical fluoride program for the rural areas has about 85 per cent acceptance. Not all schools have been covered in the program which started in the fall of 1966.

Studies taken on the same children from 1965 to 1969 have shown at least 30 per cent reduction in tooth decay with most other test cases higher.

Doctor Williams said he talks about fluoridation at every monthly board of health meeting with the news media in attendance.

Williams is also trying to organize a local promotion to spotlight Brantford's 25 years of fluoridation.

In commenting on fluoride's alleged mottling effect on teeth, Doctor Page said that he found no difference in Brantford cases compared to a non-fluoridated area in which he had served for 10 years.

Medical study

Page and Williams have been trying to get the Ontario and federal governments to join with Brantford to undertake a study of the medical effects of fluoridation.

Such a comprehensive study would satisfy those anti-fluoridationists who want proof that fluorides are safe. Doctor Page has already spent 1½ years on a thesis on the subject.

He hopes the governments can get together to start a study by the fall for 1971. This would involve the co-operation of the various government levels, pathologists, radiologists, internists and dentists.

Controversy

Kingston, Ont, is the best example of a quick reverse play using the Ontario Fluoridation Act. The population of Kingston voted out fluoridation just months after the process was implemented a few years ago.

After some delay, caused by anti-fluoridationists trying to obtain an injunction, the process began in Charlottetown in April 1968 for its 19,000 residents, the first city on Prince Edward Island to adopt it.

Fluoridation controversy is spreading in New Brunswick where the province gives full authority to municipal councils to decide the issue.

The councils of Edmundston, Moncton and St. Stephen recently have approved fluoridation. Moncton's enactment followed a strongly backed presentation from the Moncton Dental Society.

But what happened to the city fathers of Saint John, NB? They had authority to deal with the question, but decided to call a referendum, which at press time had not yet been taken.

Fredericton, a few years ago, also went to a popular vote. Fluoridationists were dealt a heavy blow in the balloting, due in part to a strong negative editorial campaign by the *Fredericton Gleaner*.

Although the press generally covers the fluoridation issue with dramatic flair and in-depth coverage, few newspapers have taken an active stand on either side. But the *Gleaner* did.

One big hurdle remaining for fluoridationists is the administration of Jean Drapeau in Montreal, Canada's largest city. Although financial inducements have been given by the province of Quebec (as well as Nova Scotia and New Brunswick) in the acquiring of fluoridation equipment, Mayor Drapeau continues to block fluoridation.

He maintains he is not hostile to the measure, but says that fluoridation should not be imposed on people.

On the west coast, it is provincial law that bars 15 municipalities from gaining the benefits of fluoridation. British Columbia, which ranks tenth in fluoridation use, is the only one among the 12 provinces and territories where more than a simple majority is needed to approve use of fluorides. A full 60 per cent is needed. The 15 communities serviced by the Greater Vancouver Water Board have missed out by a hair. In December, 1968, 54.4 per cent of Vancouver residents voted for fluoridation. In the outlying municipalities, 57 per cent voted in favour.

In 1968, 19 plebiscites were reported held in only the three provinces of BC, Alberta and Ontario. Of these, 11 were in favour of fluoridation. Most provinces

have passed the responsibility for the decision down to municipal or regional councils. In the past year or so, Edmonton voted "yes" in its first vote. Calgary has voted "no" several times. Thunder Bay, Ont. (Fort William - Port Arthur), has also voted "no." In its second popular vote, Ottawa voted fluoridation in. So did London, Ont.

However, a recent trend in the US shows the decision being made at the state level.

Who gets it

Last year more than 6.6 million Canadians were using fluoridated water daily, including 200,000 whose water contained fluoride naturally. That's 31 per cent of the Canadian population and 45 per cent of the possible total (those on piped drinking water).

In Canada, Manitoba leads with 62 per cent of its population drinking fluoridated water. Ontario follows with 55.3 per cent and the Northwest Territories 52.4 per cent. Manitoba is also the leader in percentage of possible fluoridation in effect with a high 90.4 per cent, followed by NWT with 89 per cent and Nova Scotia with 73.3 per cent.

Saskatchewan, while lagging behind statistically among the provinces, deserves far more credit.

Many small municipalities in the province have converted to fluoridation. What holds Saskatchewan back on the statistical sheet is rejection by Regina, a city of 130,000 population. The 113 centres that use fluoridation comprise a population of 320,000, including Saskatoon with its 115,000.

Geography and economics have also played major roles in delaying fluoridation, such as in rural and economically depressed areas.

Generally in these areas, the proportion of dentists to population is extremely low, which makes it all the more important for them to have fluoridated water supplies.

It is hoped that other provinces will follow the lead of Nova Scotia, Quebec and New Brunswick in offering financial incentives to communities for setting up the fluoridation process.

The attitudes of the provincial departments of health, however, vary to a great degree as to their own involvement in promoting fluoridation education.

In Canada, except for isolated cases, there is no organized anti-fluoridation movement. But in the US, prominent members of several organizations have violently attacked the health measure. Despite this opposition, fluoridation is available to 41 per cent of the American population.

Reasons for opposition

During some recent Canadian plebiscites, it was shown that the people who voted against fluoridation did so for a wide variety of reasons.

Confused and disinterested people had voted "no," as did those who felt they were not sufficiently informed about fluorides. Many would have liked to know more about it.

In this broad category of the uninformed who had



Dental hygienist Jacoba Mywaart applies an acidulated fluoride gel to the teeth of a Grade 1 student at St. George School, Brantford.

taken the negative stand, some groups had formed opinions.

Some believed that the dental, medical and pharmaceutical professions are split down the middle on the subject.

Professionals that have spoken against it actually form a small fringe. Many of them have not researched the subject enough. However, in small rural communities, one dentist or physician who has served the community all his professional life can exert a tremendous influence on the people.

Some thought it to be wasteful and expensive.

The dollar investment is actually low and the long-term savings are many times the investment—and that excludes the health benefits. In mid-1966, Allan MacEachen, minister of national health and welfare, said fluoridation "is the most effective, safest and least costly method of reducing the need for dental care."

The cost of equipment varies with the volume of water to be treated. A small fluoridation unit runs from about \$2,000 to \$2,500. Larger units run \$5,000 and up. After installation, cost per person per year is from eight to 12 cents, depending on the fluoride compound used.

Some were genuinely afraid.

These included older people or those with an illness. The British Ministry of Health has said: "Rarely has any health measure been the subject of so much study and research. Every allegation of harm has been painstakingly assessed. The safety of the measure has now been placed beyond doubt."

Some health food enthusiasts, naturopaths and others claimed that it interferes with nature.

Fluoride is naturally found in most water supplies, but many are deficient in it.

Some religious groups sincerely thought of it as medication and so contrary to their beliefs.

Because it is necessary for good dental health, it is actually a nutrient.

Some believed that alternative methods are as effective.

Alternatives are useful, but not as effective.

All these reasons show a marked lack of information about fluoridation, yet there is much available. If these persons had been better informed, they'd likely have voted for fluoridation in their communities.

Even those who admit its effectiveness against tooth decay but reject the "compulsion" can be swayed once they are educated to the point where their concern for the community overrides their rigid stand for individual rights.

These include those who admit they are against all change, those who vote against it for personal reasons or because they dislike some organization favouring fluoridation.

Education essential

It can be clearly seen that most Canadian opposition to fluoridation comes not from highly organized groups but from ordinary people who are uninformed to certain degrees. In some cases, this lack of information causes a person's basic fears to be aroused.

So the way to combat this ignorance on fluoridation is clear enough.

Mass education is a must. But it should not come from merely a few sources. Those attending our school systems are better informed than most.

The education on fluorides must penetrate further into those groups who are generally uneducated, have difficulty with either English or French, are elderly, or live in remote areas.

Most important in all of these groups is the mother of a family. She is less likely to be influenced by exterior sources than is her husband who works in an "outside world."

A few people have impact on her. These are the people who, she feels, fill basic needs of her family—the family physician, dentist, nurse and pharmacist.

Public and private health organizations generally have done well in promoting fluoridation to the public and providing the background for physicians and dentists to put their patients on the right paths of health care.

But more must be done by dentists, physicians and pharmacists, and allied professionals and staff across the country.

Each should carry on his own private campaign for fluoridation as part of his practice. If he's a member of community service organizations, he should promote fluoridation and try to get membership support for presentation to his municipal council. If he's on council, he should try to educate his fellow councillors about fluoridation and get their support in a campaign.

Hospitals can also exert influence on a community.

Fluoridation was given a boost earlier this year, following the release of Toronto results. Toronto kindergarten children set a record low level of tooth decay. Toronto fluoridation began in September, 1963.

It was reported that 59 per cent or six out of 10 children in the group were without cavities requiring restoration, compared to 43 per cent or four in 10 in 1958 surveys. In 1963, 27 out of 100 kindergarten children had never suffered a cavity. In 1968, this had soared to 43 in 100.

Those with cavities in the latest survey had fewer of them, 1.3 cavities, than those children 10 years before with 2.54.

Also, the number of five year olds who had lost primary teeth through decay was half the 1963 group.

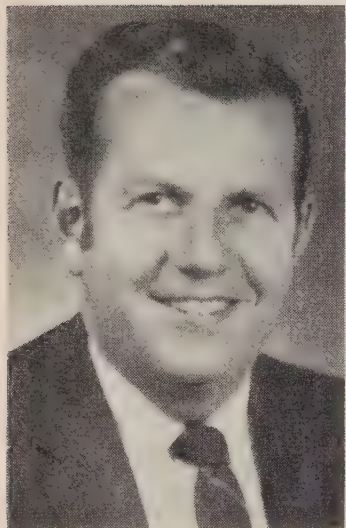
Toronto's director of dental services, Doctor James McGaughey, says the full benefits of fluoridation won't be determined until at least 1975 when the twelve year molars appear.

But the pace of treating Canadian water supplies has slowed in the last couple of years, barely keeping pace with the increase in population, says CDA's Bowen.

Time is on fluoridation's side and eventually it will be accepted as a matter of course as one of the great public health measures of the century.

In the meantime, however, thousands of Canadians may be deprived of its benefit if they condone the costly time-lag between acceptance by science and acceptance by the public. This need not be so if all of us do more about it.

"They tell it like it is"



The Canadian Dental Association is moving to close what may have been a "communications gap" between the Association and its members. This article tells what is being done, not only to widen the scope of contact with members of the profession, but also with the public at large. Supervising the work is a seven member committee led by Doctor H.H. Canning of Toronto.

The action centre of the Canadian Dental Association is the broadloom-carpeted conference room on the second floor of the imposing, "proper Torontonians" former private residence which now houses CDA headquarters staff on St. George Street, a few blocks from the chic (and expensive) shops of Bloor Street, and as near—in the opposite direction—to another Ontario landmark, the turreted old Casa Loma tourist haunt which peers over the mid-town business section.

Got the picture? Dull, pompous, and not really "with it?"

Don't you believe it!

Things are stirring at CDA headquarters, and it is significant not only that new approaches are being taken to find new solutions to new problems, but that people are being told about it.

And the people, in this case, means not only all the 7,000 odd practising dentists who, through their affiliation with provincial dental organizations make up the membership of the national association. It means, also, people at decision-making levels in government, in the communications media, and finally, the public at large.

Example: An estimated 500,000 Canadians now find accurate, authoritative and easy-to-read dental information in their community newspapers every week through the column, "Dental Topics," furnished to 78 weeklies by the Canadian Dental Association.

Example: When the Senate committee charged with the responsibility of receiving briefs on Finance Minister Edgar Benson's white paper proposals for tax reform began hearings, one of the most cogent and

free-wheeling documents to come before it originated with the Canadian Dental Association . . . and CDA saw to it that the public was told about it.

Example: When the CDA Executive Council struck a decision (at a meeting in that broadloom-carpeted conference room) to urge provincial associations to go along with the request of the Prices and Incomes Commission to hold the line on professional fees, the news was on the wires of the nation's press agencies within hours—evidence that dentists had joined the fight against inflation.

Example: When the Canadian Radio and Television Commission suggested that public service announcements on television should be put in the category of paid commercials (with stations restricted as to their total commercial time), the CDA responded promptly to warn that such a move could demolish the year-round public health education campaign.

The focal point for many of these activities has been the Association's new Communications Committee which, under the chairmanship of Doctor H. H. Canning of Toronto, oversees the activities of the CDA's communications consultants, Carleton Cowan Public Relations Ltd of Toronto.

This firm, a division of MacLaren Advertising, the largest advertising agency in Canada, was commissioned in the spring of 1969 to conduct a national communications study to determine what dentists really thought of their national association.

Sixteen weeks, 10,000 miles and 30,000 words later (Carleton Cowan's report merely *summarizing* its more extensive findings and recommendations ran to 17 closely typed pages), the 1969 convention of the CDA was told that the profession's sole national voice was threatened with being torn apart by internal disunity.

But the Carleton Cowan report suggested that the threat could be faced up to, and overcome, with a communications and public relations program aimed at bringing CDA services closer to dentists across Canada.

Now, less than a year later, it is the opinion of CDA staff that significant progress has been made in this direction.

In setting out priorities for the work of the CDA's new communications consultants, it was evident that considerable energy would have to be spent on research and "get-acquainted" sessions in order for Carleton Cowan personnel to become intimately familiar with the functions and services of the national organization.

A notable early achievement was the reorganization of the CDA Journal, undertaken on recommendation and supervision by Carleton Cowan, in respect to lay-out and presentation, advertising policies and general content.

Working with Doctor F. H. Compton, editor, and Mr. G. V. Allen, advertising manager, plans were made in the fall of 1969 to go to a new format effective with the January 1970 issue.

Substantial rate increases in advertising were launched at the same time and, to date, have met with heartening success in bringing the advertising rates to a level needed for today's very high production, postage and printing costs. According to an estimate by Carleton Cowan, advertising revenue under the new rates may show further substantial gains by 1971.

The aim has been to maintain a consistently high scientific standard, while improving the journalistic



Mrs. Rosemary Raymond of the order section handles dentists' requests for CDA pamphlets, pamphlet racks, film strips and the new blazer crests. Last year she sent out half a million publications.

techniques, printing, and revenue capability of the Journal. At a time when many associations have had to curb or even suspend their publications due to high costs, especially of postage, the new program is moving the CDA Journal forward, and Doctor Compton reports readers have been generous in their praise of the "new look" and content of the magazine.

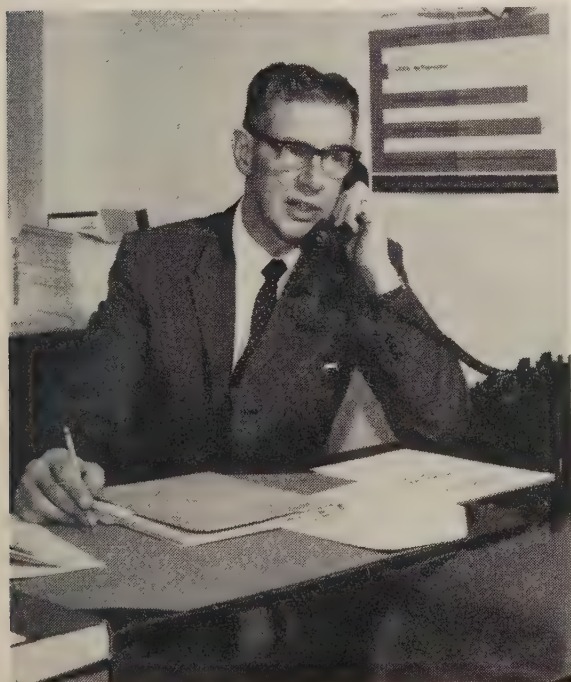
Of the several new features introduced in the Journal, one of the most informative is a monthly column by Executive Director W. G. McIntosh. In this column, Doctor McIntosh reports on some of the "nuts and bolts" aspects of CDA activities, keeping members abreast of administrative and other activities which were not previously reported.

Because Doctor Compton remains the only full-time editorial staff member at the Journal, representatives of Carleton Cowan assist in the writing of non-technical articles, keeping down costs in this area. This also enables events to be reported more promptly than has been the case in the past. As an example, full coverage of the July 1-6 annual CDA meetings in Winnipeg will appear in the August issue.

In addition to collaborating on this coverage, Carleton Cowan's vice-president and general manager, Mr. Ray Argyle (who supervises the agency's activities for CDA) will produce a special publication to be circulated during the Winnipeg convention, with up-to-the-minute reports on activities at the convention and the Board of Governors meeting. (A similar special bulletin was produced by Carleton Cowan after the special Board of Governors meeting in Toronto last October which made far-reaching recommendations to update and broaden participation in CDA decision-making).

In conjunction with the CDA Convention Committee, Carleton Cowan will play a major role in the 1970 convention, including CDA displays and press liaison, and the agency is now engaged in planning for the 1971 Ottawa convention, for which the Winnipeg sessions will serve as a "dry run."

Another area in which Carleton Cowan has been engaged has been the rewriting and editing of the CDA's series of public education pamphlets, all of which are being reprinted in new formats, and easier-to-read, more understandable language for the layman.



The telephone is seldom idle in Lloyd Bowen's office in the Bureau of Public Information. Each year, Mr. Bowen answers literally thousands of inquiries from dentists as well as from the public.



Another issue of the CDA Journal takes shape as Editor F. H. Compton suggests a layout sequence to Mrs. Jean Yazaroglu (left) and Mrs. Enid Bazlik of the editorial department.



Printer Hubert Scheja and Information Officer Lloyd Bowen examine one of the new pamphlets as it rolls off the press in the CDA's printing department. The CDA produces all its own printed matter except the Journal.



Husband and wife team Hubert and Charlotte Scheja are the backbone of the CDA printing department. Here they are examining text copy which is about to be processed into printing plates.

Carleton Cowan consultants have stressed the importance of readability of these pamphlets. First new pamphlet off the press, entitled *Broken and Infected Teeth Can Be Saved*, illustrated this technique in that an earlier draft had been titled *Endodontics* which, while technically accurate, may have had little meaning for the average patient.

Additional pamphlets put through the Carleton Cowan editorial desk have been titled *Dental X-Rays Show Hidden Dangers*, *Care Following Dental Surgery*, *Those Important Baby Teeth* and *How to Brush Your Teeth*. All are being printed by the CDA in English and French and are available, along with a new rack designed by Carleton Cowan, for display in dentists' offices.

In addition, Carleton Cowan has recommended that two new pamphlets be produced for CDA, one for the public and one for internal use. The public pamphlet, *You and Your Dentist*, would deal with dentist-patient relationships, focusing on the responsibility of the dentist to scientific and ethical standards, and suggesting what the patient can and should do as his part toward a healthy and understanding relationship. The internal pamphlet will spell out services of the CDA to the membership.

Another area of Carleton Cowan activity involves the subject of "corporate identification" through symbols and type design used to identify the Association, right down to letterheads and memo pads. As an example of the importance the business community places on this identification, large corporations have spent hundreds of thousands of dollars to achieve visual reorientation, with the outstanding recent example perhaps being the adoption of the new "CN" label by the Canadian National Railways. The CDA is moving in the same direction by making effective use of the Canadian emblem of dentistry and type

design in its new pamphlets. Further evidence will appear as present stocks of letterhead and stationery are gradually replaced.

To date, the bulk of Carleton Cowan's activity has been concentrated in the area of "intraprofessional" communications, with the aim of improving the flow of information back and forth between CDA headquarters staff and officials, and corporate and individual members.

Increasingly, however, Carleton Cowan has become involved in the projection of a public image for CDA and, indirectly, for the dental profession as a whole. One of the agency's major current projects is the development of a national public relations program which will, when finalized, be available for use by corporate members, local societies and individual dentists.

The role of the news media has loomed increasingly important in this respect and Carleton Cowan's appointment of Mr. Paul Goldstein, a former financial writer with the Toronto *Daily Star*, as account executive assigned to CDA, is a reflection of this fact.

As well as the daily and weekly press, television has not been overlooked and plans are now being developed for a regular program on cable TV, with time donated by the cable companies, featuring dentists speaking on dental health and relevant topics.

Mr. E. A. Cowan, president of Carleton Cowan Public Relations Ltd, considers the agency's assignment to these projects as among its most stimulating in recent years.

"Our work for the CDA has drawn out new resources within our organization," Mr. Cowan says, "and we regard our activities to date as setting the stage for more useful work on behalf of the dental profession in the future."

Dentistry in the news

National Convention

Social program open to all convention delegates

The social program at the Winnipeg national convention is open to all convention delegates and their ladies, Convention Chairman J. P. Beattie has announced.

He explained that a promotional program mailed to all dentists last month contains a misleading heading which suggests that the social program is restricted to members of the Canadian Academy of Paedodontics. "This is incorrect," Doctor Beattie said.

He urged readers to mail their advance registrations immediately as hotel accommodation in Winnipeg is limited. Advance registration forms were published on page 106 of the March Journal.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on April 30:

*Government Bond Fund \$14.010;
Corporate Bond Fund \$15.302;
Common Stock Fund \$21.220.*

Total assets (market value) of the plan were \$8,733,096.90.

The following portfolio purchases and sales occurred during the preceding month: bought 4,000 shares Commonwealth Holiday Inns; 7,000 shares Cominco; 5,000 shares Hudson's Bay Oil and Gas; 1,000 shares McIntyre Porcupine Mines; and 5,000 shares Canadian Superior Oil; sold 2,090 shares Diebold Inc.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

Free public service TV time will stay

The Canadian Radio-Television Commission has reassured public service groups that they won't be deprived of obtaining free announcements in prime-

time TV. Several of the groups, including the Canadian Dental Association, had presented briefs to the CRTC which expressed fears that a proposed 12 minute limit on TV commercials in the prime-time hours would mean elimination of public service announcements donated free by stations and networks (May Journal, page 175).

"If such a development (elimination) were to take place," the CRTC said in a statement, "either by interpretation or practice, the commission would ensure that the situation was corrected."

CRTC Vice-chairman Harry Boyle said it hasn't been decided whether the public service announcements would be included in the proposed 12 minute limit. He said the statement was issued to reassure the groups and organizations, with details to be worked out later.

New warning labels on headache preparations

The Food and Drug Directorate of the Department of National Health and Welfare has established new regulations for labelling drugs containing acetylsalicylic acid. To lessen the hazard of children being poisoned by a common headache tablet, the new labels must show conspicuous warnings about safekeeping and dosage.

In addition to the generic brands sold as ASA, some of the products which contain acetylsalicylic acid are: Aspirin (Bayer), Anacin, Bufferin, Dristan, Espirets, Frosst 217, Frosst 222, Instantine, Ospra and Tempelton TRC.

ASA is a relatively safe pain reliever when used according to recommended amounts. The adult doses found on labels are based upon limits of drug dosage for acetylsalicylic acid set forth in the Food and Drugs Act. The limit for a single adult dose is the equivalent of three tablets of five grain strength, and the total daily dose, nine tablets of five grain strength.

A few people are extremely sensitive to ASA and any amount can cause a severe reaction. Children are even more sensitive to the amount of ASA in a preparation because of their small size. For safety's sake neither ASA nor any other drug should be given to a child under two years of age except on competent professional advice.

National nutrition survey started

A two year national nutrition survey by the Food and Drug Directorate of the Department of National Health and Welfare begins this month with initial studies in the southern Ontario counties of Dufferin and Wellington.

Four enumeration districts have been selected in Dufferin-Wellington on the

basis of income level and type of community, such as urban or rural. Preliminary interviews will be held with chosen households before the family members visit the survey clinics. At the clinics they will be asked about their food consumption, weighed and examined clinically and blood and urine samples will be taken for analysis.

Announcement of the survey was made last November by National Health and Welfare Minister John Munro. It will involve 21,000 people and will be conducted by survey teams in five regions of Canada — the Atlantic Provinces, Quebec, Ontario, the Prairies and British Columbia. Purpose is to provide information on the nutritional well-being of Canadians for planning public health programs and for developing food and drug regulations.

Doctor Peart retires from Canadian Medical Association post

A. F. W. Peart retired March 31 from the position of general secretary of the Canadian Medical Association. Doctor Peart relinquished the appointment for health reasons.

Mr. B. E. Freamo, executive secretary is now serving as acting general secretary of the CMA.

News from Parliament

Dental services for Indians

Health Minister John Munro recently clarified Ottawa's position on the provision of dental services for Indians.

He denied that people of Indian origin are entitled to free extractions, restorations or dentures. The federal government, said Mr. Munro, maintains that responsibility for health lies first with the individual, secondly with his group, and thirdly within provincial programs.

Only when these three resources fail to meet requirements does the federal government become involved. Mr. Munro said this position is supported by the fact that, traditionally and constitutionally, health care services have been the responsibility of the provinces for all residents within each province.

"Many people of Indian origin, however, live in isolated areas or are indigent and thus are unable to obtain or pay for dental or medical attention in the ordinary way. Each year Parliament appropriates a certain sum of money for the provision of public health and essential dental and medical care for this group. To ensure that funds are used for the purpose intended, it is necessary to establish certain criteria concerning the acceptability of individuals for assistance, and to place certain limits upon those services which

Ontario report urges sweeping changes in dentistry

The 984 page report of the Ontario Committee on the Healing Arts, culminating almost four years of intensive probing, contains 354 specific recommendations covering every branch of the health services. Herewith a digest of the 42 recommendations dealing with dentistry.

A three volume report of a three member Ontario committee which has been investigating the education and regulation of physicians, dentists and others in the healing arts says the Royal College of Dental Surgeons of Ontario should discontinue making grants from its licensing fees to the Ontario Dental Association and Canadian Dental Association.

The report, tabled in the Ontario legislature April 28, said that the voluntary nature of the ODA and CDA should be recognized by eliminating membership or financial support to these two associations as a condition of receiving a licence.

Licensure, discipline and education

The committee urged "significant lay representation" on the RCDS board of directors and similar lay representation on its discipline committee. But the RCDS should no longer prosecute persons for illegal practice; this responsibility should be transferred to an appropriate crown attorney.

The report also says the RCDS should no longer establish entrance requirements for dentistry or control the curriculum of studies. Instead, it suggests that the

Department of Health and the Ontario Council of Health should evaluate the advantages of the various pre-dental educational requirements and that dental schools should not require more than the minimum educational prerequisites for producing satisfactory practitioners.

Accreditation of dental schools should be transferred to the Association of Canadian Faculties of Dentistry. If, however, the ACFD cannot take on this task, it may be left with the Canadian Dental Association's Council on Education or, alternatively, transferred to Ontario's Department of University Affairs.

The report also calls on the RCDS to take the initiative in establishing a federation of dental licensing bodies in Canada which could develop national standards for licensing dentists and provide more flexible interchange of dental personnel between provinces.

The RCDS should also establish, in conjunction with other licensing bodies and the federal Department of Manpower and Immigration, a Canada-wide system for objective evaluation of foreign dental schools. If such a program is impossible, Ontario should proceed on its own.

Third dental school

A third dental faculty should be created to provide for more dental students, the report says, and Ontario's dental schools should work toward the establishment of joint examinations with the National Dental Examining Board of Canada to eliminate the necessity of two sets of examinations for the dental graduate.

Dental students should be made more aware of the usefulness of dental auxiliaries, and more emphasis should be placed on preventive and public health aspects of dentistry, the committee said.

The report also calls for annual dental inspection of every primary school child in Ontario. Results of the inspection should be mailed to the parents of the child and public health units should ensure that facilities are available for necessary treatment through either private dentists or public health dental units as appropriate.

the government is prepared to approve," the minister explained.

To receive federal aid, a patient must be registered with an Indian agency and must be medically or dentally indigent, or so isolated that the costs of transportation would be impractical.

A patient is ineligible if any other agency, such as the Department of Veterans Affairs, a workmen's compensation board, an insurance plan, or some other provincial agency is responsible for payment of the account.

When an Indian lives away from a reserve long enough to qualify for provincial, municipal or other aid, he also ceases to qualify for federal assistance.

Mr. Munro said the objective of Ottawa's Indian health program is to help eligible Indians achieve a standard of

health comparable to that of other provincial residents. Indian groups in most provinces receive the same benefits under hospital and medicare plans as all other citizens, he said. For special

held at the Spa Hotel, Palm Springs, California, October 23-27.

Fourteen scientific papers to be presented range from subjects such as "The Relationship of Physical Properties of Foods to their Cariogenicity" to "Diagnosis of Intra-oral Malignant Disease."

Members of the faculty include: R. C. Caldwell of the University of California at Los Angeles; A. M. Frandsen of the Royal Dental College, Copenhagen, Denmark; R. J. Gorlin, University of Minnesota; P. H. Keyes of the National Institute of Dental Research, Bethesda, Maryland; and B. M. Levy of the University of Texas, Houston.

For further information and application forms, please write to Mrs. Dorothy M. Good, Executive Secretary, American

International Items

Palm Springs chosen for Oct 23-27 oral biology conference

The 27th annual meeting of the American Institute of Oral Biology will be

Dental hygienists

The report said the dental hygienist should be recognized as an important member of the dental care team. Dentists should not be restricted in the number of hygienists they employ, and the RCDS should repeal its by-laws imposing such a restriction. Moreover, dental hygienists should no longer be required to be exclusively female.

Education of dental hygienists should continue for the time being in universities under dental faculties, but the course should be shortened to one year and when feasible put into colleges of applied arts and technology.

Dental hygienists should no longer be licensed by the RCDS. This responsibility should be transferred to a proposed health disciplines regulation board. Other disciplines under this board's jurisdiction would include dental technicians, nursing assistants and other professional groupings that are not now self-regulating.

The committee also called on the Ontario Council of Health to examine possible utilization of the dental nurse along the lines of the New Zealand or English type and report its findings with specific recommendations to the Department of Health.

Technicians

In the matter of technicians, the committee said it was "persuaded that the dental profession's monopoly on the prescribing and fitting of dental prosthetics does serve the public interest by ensuring the safety of the patient from some health risks which could arise if this work were done by persons lacking the dentists' training."

It suggested two avenues of gaining qualification as a dental technician: one via an entrance requirement of Grade 12 and completion of an approved program at a college of applied arts and technology, and another via the current apprenticeship route, but requiring only Grade 10 instead of Grade 12 as at present.

All dental laboratories should be licensed and prohibited from dealing directly with the public. A proposed health facilities board should administer the licensing scheme.

Dentists should provide a formal prescription to dental laboratories for each item ordered. Those that ignore this requirement should be subjected to disciplinary action by the RCDS.

Specialists, hospitals

Restrictions that now prevent a dental specialist from practising general dentistry should be abolished.

More dentists should become associated with hospitals, and hospitals should make provision for including dentists on their attending staff.

Professional competence

In the matter of professional competence, the report suggests that every dentist should be required to present every five years to the RCDS a certificate from a dental school attesting competence in the areas of dentistry he ordinarily practises.

It also recommends that dentists should be allowed to incorporate for the practice of dentistry, but ownership of the shares of such corporations should be restricted to dentists licensed to practise in Ontario.

Billing

Dentists should be required to give patients a detailed bill showing charges for professional fees and dental appliances they supply. The RCDS should declare that any mark-up made by a dentist on dental appliances is "unprofessional conduct."

The ODA fee schedule should be negotiated by the Ontario Dental Association and the Minister of Health, who would be advised by a proposed fee negotiations advisory committee.

Institute of Oral Biology, 8674 Falmouth,
Playa del Rey, California 90291, USA.

Ontario dentists elect Doctor Hrabowsky

Ivan Hrabowsky, St. Catharines, is the new president of the Ontario Dental Association. He succeeds H. N. Beach of Ottawa.



Ivan Hrabowsky

Born in Toronto, Doctor Hrabowsky has practised in St. Catharines since he graduated from the University of Toronto in 1954. Active in the St. Catharines and Niagara Peninsula dental organizations, he was elected to the Board and Executive Council of the Ontario Dental Association in 1967 and to the CDA Board of Governors in 1968.

L. J. Schiller of Windsor was named president-elect. Other members of the Executive Council are J. E. Durran, Hamilton; J. A. Guest, London; W. L. Heaslip, Toronto; R. L. Moran, Toronto; R. J. Yakasovich, Sault Ste. Marie; and W. C. Deacon, Ottawa. Representatives to the CDA Board of Governors are Ivan Hrabowsky; W. C. Deacon, Ottawa; D. C. Clee, H. M. Jolley and E. J. Siegel, Toronto; and W. D. Ure, North Bay.

Dental Organizations

Saskatchewan college installs Doctor Halliday

C. G. Halliday, Saskatoon, has succeeded F. T. Wihak, Regina, as the 1970 president of the College of Dental Surgeons of Saskatchewan. F. L. Pierce, Swift Current, is vice-president and F. R. Smith, Saskatoon, continues as secretary-registrar-treasurer.

Quebec association elects Doctor LaBelle

Hubert LaBelle, Montreal, has been elected president of the Quebec Dental Surgeons Association. Named first vice-president is Georges Lepage, Lévis. Marcel Tenenbaum, Montreal, is second vice-president.

Other officers are: P. P. Prud'homme, Shawinigan South, treasurer; Jacques Dufour, Quebec City, chairman of the Board; and P. J. Trudeau, Montreal, secretary.

Elected as councillors are: Luc Vinet and Jacques Matteau, Montreal.



Hubert LaBelle

Regional Conventions

Oral surgeons' meeting advocates jaw deformity operations

"We can tailor the jaw to your requirements." This humorous remark was the theme for 160 Canadian and American surgeons, members of either the Cana-

dian Society of Oral Surgeons or the Great Lakes Society of Oral Surgeons, when they held their first joint annual meeting in Toronto April 26-28.

Guest lecturer, Norman L. Rowe of London, described current British techniques for the correction of acquired and developmental deformities of the jaws and face.

Doctor Rowe, who is a consultant at three London hospitals and president of the British Association of Oral Surgeons, singled out accidents and otitis media as major causes of acquired jaw deformities.

Middle ear infection in a child, by occurring near the condylar growth centre, can disorganize the temporomandibular joint and cause unilateral or bilateral fusion of the lower jaw to the base of the skull. The resultant deformity is cured by dividing the mandible from the skull and inserting bone grafts taken from the rib or the iliac crest.

Trauma, particularly from traffic accidents, can also result in permanent deformity unless treated promptly. Doctor Rowe showed a picture of a man with two fractures of the jaw, a nose fracture and severe damage to the cheek caused by a motorcycle accident. Within a few hours of the accident—he stressed the operation should be carried out as soon as possible after accidents—he started operating on the man and finished six hours later. There were no visible signs of injury after the man recovered from the operation.

Doctor Rowe said that genetic influences account for some of the severe Class III jaw deformities exemplified by the so-called Hapsburg jaw in which the lower jaw is considerably larger

than the upper. Jaw resection helps to establish a more pleasing profile for these patients, he said.

P. T. Smylski, president of CSOS and professor of oral surgery at the University of Toronto, said that about 100 developmental jaw deformities are corrected in Toronto hospitals every year and more could be done if the average dentist and sufferer knew such operations are possible. He said these operations are physiologically valuable because they improve the patient's appearance. Older patients also benefit nutritionally because of the restoration of a functional occlusion.

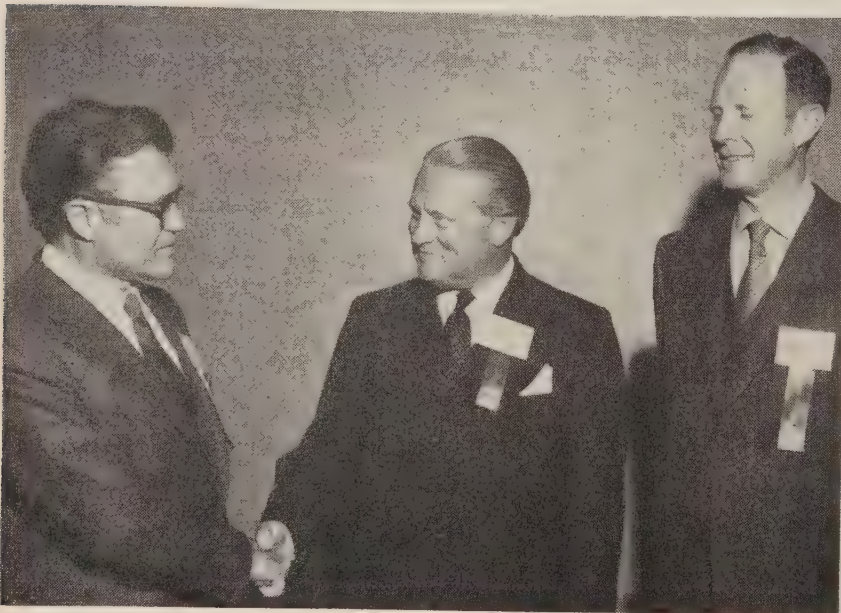
Average patients' stay for jaw operations is about five days, Doctor Smylski said. There is no upper limit on age, regardless of whether or not the patient has dentures, providing the patient's health is satisfactory. But operations are not carried out on children under the age of nine or 10.

Royal Canadian Dental Corps

Brig.-Gen. Kearney retires: Col. Evans to head Dental Corps

Col. G. C. Evans, 51, of Ottawa and Warner, Alta, will be promoted to brigadier-general July 15 and appointed Director General of Dental Services for the Canadian Armed Forces with headquarters in Ottawa. He succeeds Brig.-Gen. B. P. Kearney who retires in July.

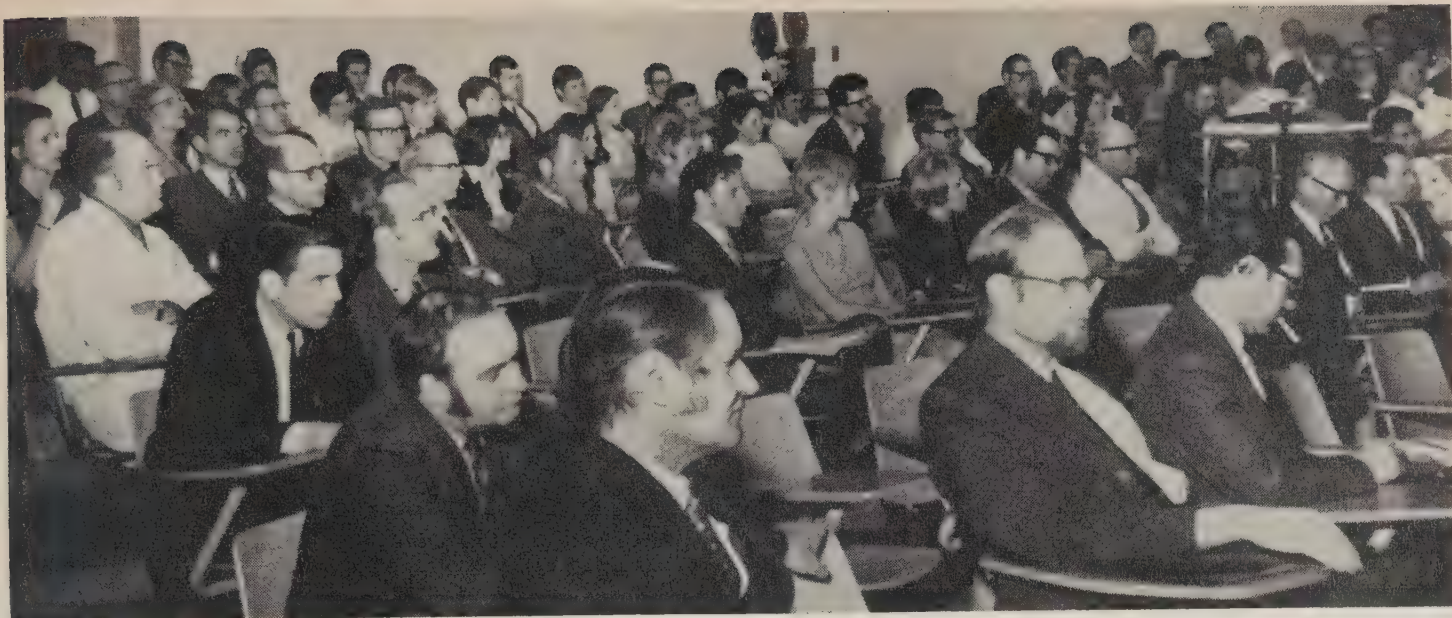
A 1944 graduate in dentistry from the



Norman L. Rowe, of London, England, is flanked by P. T. Smylski (left), Toronto, president of the Canadian Society of Oral Surgeons, and R. W. Marshall, Toronto, president of the Great Lakes Society of Oral Surgeons.



E. P. Millar (right), Montreal, receives the gavel from President P. T. Smylski, Toronto, at the April 26-28 joint meeting of the Canadian and Great Lakes Societies of Oral Surgeons.



Staff, students and local practitioners concentrated their attention on the management of medical emergencies in the dental office at a conference held by the Department of Oral Surgery, University of Western Ontario, London, April 2.



Col. G. C. Evans



Gen. B. P. Kearney

University of Alberta, General Evans joined the dental corps as a student in 1943. He was commissioned in 1944 and served at various units across Canada and overseas including a year in Korea in 1952 and in Germany from 1960 to 1963. He was posted to the staff of the Director General of Dental Services in July 1963 and in 1965 became commanding officer of No 11 Dental Company.

His duties as a dental officer have taken General Evans to sea aboard HMCS Ontario and to the wartime RCAF base at Tofino, BC, where he looked after the dental needs of the members of the bomber-reconnaissance squadrons during 1945 and 1946.

Dental Education

Health resources grant for Dalhousie dental faculty

A \$161,755 contribution from the federal government's health resources fund has been approved for the Faculty of

Dentistry of Dalhousie University, Halifax.

The money will help costs of a functional planning study for a new school. The aims of the Faculty of Dentistry are to increase the output of dental personnel to the levels needed to properly serve the Atlantic Provinces, provide programs in postgraduate, graduate and continuing education, and the establishment of research programs.

Proposals included in the study call for facilities for an entering class of 64 dental students and 64 dental hygiene students, as well as 25 graduate students in various disciplines. Present facilities provide for an entering class of 24 undergraduate dental students and 16 dental hygiene students.

Western U features symposium on emergencies

"Medical Emergencies in the Dental Office" was the subject of an interdisciplinary presentation at the University of Western Ontario April 2. The audience consisted primarily of third year students as well as local practitioners and their surgery assistants.

The subjects covered included: collapse following local anaesthesia, medical conditions predisposing to collapse, and emergency drugs and their use.

Participants also viewed a film, "Prescription for Life," showing mouth-to-mouth resuscitation and closed cardiac massage. Following the film practical demonstrations of the technique were given on a manikin.

Participants included Stanley Kennett, University of Manitoba; Gordon Glennie, UWO Department of Anaesthe-

sia; as well as all members of the Department of Oral Surgery who organized the presentation.

Economics

Two unions select Alberta dental service plans for prepayment program

Approximately 6,000 of an eventual total of more than 9,000 Albertans began receiving dental care benefits effective April 1 under two Alberta Dental Service Corporation prepaid dental insurance programs. Coverage for the remainder began on May 1 and June 1.

The two programs, the first to be underwritten by the Alberta corporation, cover members of the Retail Clerks Union and the Amalgamated Meat Cutters and Butchers Workmen of North America.

Dentists may charge patients their "usual fees" for a treatment service. The patients are responsible for any difference between allowable benefits and the fee assessed by the dentist.

M. J. Lipkind, ADSC president, said he expects that a further allied branch of the food industry, covering another 2,000 persons, will be brought into the program before the end of the year.

Saskatchewan college moves into dental prepayment

Legislation which would permit the Saskatchewan College of Dental Sur-

geons to set up non-profit dental service plans with employees was introduced in the provincial legislature on March 31.

The legislation, an amendment to the Dental Profession Act, would allow the college to operate dental service plans directly or through a non-profit corporation for personnel groups and their families.

F. T. Wihak of Regina, past president of the Saskatchewan college, said the college has been considering this type of plan for some time and wanted to get the necessary changes made in the professional legislation to allow it.

Fluoridation

President MacLean salutes Brantford's fluoridation anniversary

CDA President H. R. MacLean has congratulated the city of Brantford on the 25th anniversary of the inauguration of fluoridation in Canada. In a letter to Mayor Beckett, Doctor MacLean praised the city's pioneering role in the initiation of this important measure.

"The results have proved this action to be one of the most important ac-

complishments in preventive health," said the CDA president.

Awards and Appointments

M. E. Bourne, a 1947 graduate of McGill University's Faculty of Dentistry, was recently elected president of the Montreal Negro Alumni Group. MNAG is an association of business and professional people which fosters education among young Negroes.

Sigmund Socransky of the Forsyth Dental Centre, Boston, received an "Award for Basic Research in Oral Science" at the March 16-19 meeting of the International Association for Dental Research in New York City.

Doctor Socransky assisted in the preparation of the dental exhibit at the Ontario Science Centre in Toronto.

Deaths

Burrows, Earl Stanley. 74. Guelph, Ont. Royal College of Dental Surgeons of Ontario, 1923. 17-4-70. Survived by

Dorothy Alice (wife); Mrs. F. J. Francis (daughter); Leslie F. and R. Ross (brothers); and three grandchildren.

Carrier, Jean Paul. 51. Lévis, Qué. Université de Montréal, 1944. 7-4-70. Survéu par son épouse; Denis, Jules, Simon, André et Alain (fils); et Marie et Lucie (filles).

Hampton, Charles Leroy. 64. Woodstock, Ont. University of Toronto, 1932. 6-4-70. Survived by his wife.

Macintosh, John George Stewart. 51. Toronto. University of Toronto, 1950. 13-4-70. Survived by Mary (wife); John and Stewart (sons); Mrs. V. Ampeef, Sheila and Sandra (daughters); and Mrs. Fraser Hardy and Esther (sisters).

Nicholson, Wilfred Aubrey. 61. Nanaimo, BC. North Pacific College, University of Oregon, 1929. 29-3-70. Survived by his wife.

Tripp, John Henry. 54. Cobourg, Ont. University of Toronto, 1947. 21-4-70. Survived by Josephine (wife); Peter (son); Stan (brother); and Mrs. Gordon Steen (sister).

In memoriam

James P. Whyte

Canadian Dental Association Past President James P. Whyte of Swift Current, Sask, died on March 30 at the age of 71.



J. P. Whyte

Born in Pembroke, Ont, in 1898, Doctor Whyte graduated from the Royal College of Dental Surgeons of Ontario in 1921. He was formerly president of the Swift Current Dental Society, the College of Dental Surgeons of Saskatchewan and the International College of Dentists (Canadian Section). Doctor Whyte served on the CDA Board of Governors for 10 years before acceding to the office of president in 1960. He was a life member of the College of Dental Surgeons of Saskatchewan.

During World War II Doctor Whyte rose to the rank of lieutenant-colonel in the Canadian Dental Corps. He commanded No 12 Dental Company in England and Continental Europe, and

also served as assistant director of dental services in The Netherlands. Following the war he became deputy director of dental services at Canadian Military Headquarters in London, England. In 1954 Doctor Whyte was appointed assistant director of dental services for the Militia Military Command, holding that position for eight years and retiring with the rank of colonel. In 1958 he was appointed Queen's Honorary Dental Surgeon and in 1961 he received a life membership in the Royal Canadian Armoured Corps Association.

Besides his wife, Gladys, Doctor Whyte is survived by two sons, Michael of Swift Current and Donald of Victoria; a daughter, Mary, of Swift Current; and three brothers and two sisters.

L'Association

L'ADC s'élève contre les restrictions frappant les films d'information télévisés

L'Association Dentaire Canadienne a demandé au Conseil de la Radio-Télévision canadienne de réexaminer un projet de règlement qui classerait tout ce qui ne fait pas partie intégrale des émissions dans la catégorie "publicité" et limiterait celle-ci à 12 minutes par heure.

Un mémoire de l'ADC explique que, d'après la proposition, les courts métrages d'information au public, tels que les 26 films de TV d'une durée d'une minute préparés par l'ADC, seraient jugés comme publicité commerciale. En pratique, les stations de TV ne voudront plus employer ces petits films car elles disposent d'assez de films publicitaires payants pour remplir les 12 minutes n'appartenant pas aux émissions.

Le mémoire souligne que l'ADC a investi des sommes considérables dans ses 26 annonces filmées. Par exemple, le coût des versions anglaise et française de la dernière, "Gros plan sur les dents", s'est élevé à \$6,715.

Le mémoire demande au CRTC de faire le nécessaire, lors de la modification des règlements de diffusion, pour s'assurer que les postes de télévision continuent d'être encouragés à utiliser dans une mesure raisonnable les annonces non commerciales d'intérêt public.

Le Congrès National

Horaire des conférences

Le Dr J. P. Beattie, président du Congrès National 1970 à Winnipeg, annonce l'horaire suivant des conférences figurant sur le programme général.

Jeudi, le 2 juillet—S. N. Bhaskar, de 9h.00 à midi: (1) "Diagnostic et traitement des maladies pulpaires en pratique générale"; (2) "La périodontie en pratique générale". B. F. Dewel, 13h.30-

14h.30: "Extractions systématiques en série; précautions et exigences préalables" (Conférence Grieve Memorial).

Vendredi, le 3 juillet—L. I. Grossman, 9h.00 à midi: "Une technique d'endodontie pratique". Panel, 14h.00-17h.00: "Application clinique de la recherche fondamentale".

Samedi, le 4 juillet—Conférences, 9h.00-10h.00. Présentation de l'ADC, 10h.30-12h.15: "Le personnel dentaire connexe au Canada". Panel, 14h.45-16h.30: "Quoi de neuf en art dentaire".

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 avril:

Fonds d'obligations gouvernementales \$14,010;

Fonds d'obligations corporatives \$15,302;

Fonds d'actions ordinaires \$21,220.

L'avoir total (valeur marchande) du régime se montait à \$8,733,096.90.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 4,000 actions de Commonwealth Holiday Inns; 7,000 actions de Cominco; 5,000 actions de Hudson's Bay Oil and Gas; 1,000 actions de McIntyre Porcupine Mines; et 5,000 actions de Canadian Superior Oil; vente 2,090 actions de Diebold Inc.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Le Canada

L'assurance-maladie au Québec: l'ACDQ étudie le Bill 8

L'Association des Chirurgiens Dentistes du Québec a élu son premier Conseil

d'administration le 3 mars. Les membres du Bureau Exécutif sont: Dr Hubert La Belle, de Montréal, Président; Dr Jacques Dufour, de Québec, Président d'assemblée; Dr Georges Lepage, de Québec, 1er Vice-Président; Dr Marcel Tenenbaum, de Montréal, 2e Vice-Président; Dr Pierre Jean Trudeau, de Montréal, Secrétaire; Dr Pierre-P. Prud'homme, de Shawinigan, Trésorier; Dr Luc Vinet et Dr Jacques Matteau, de Montréal, Conseillers.

L'ACDQ s'est immédiatement mise au travail pour étudier le Bill 8 qui devrait régir l'assurance-maladie au Québec et qui s'adresse à tous les professionnels de la santé et non pas aux médecins seulement.

L'ACDQ a également étudié les recommandations de l'ADC sur le Livre blanc du gouvernement fédéral sur la réforme fiscale.

A plusieurs reprises dans le passé, l'ACDQ a fait des revendications au gouvernement du Québec afin que les assistés sociaux bénéficient des soins bucco-dentaires dans le cadre de l'assurance-maladie et a manifesté le désir que le régime soit conçu en fonction de la couverture des soins plutôt qu'en fonction des agents dispensateurs, c'est-à-dire que soit reconnu le principe de la rémunération selon l'acte, indépendamment du professionnel qui le pose.

L'association provinciale a également fait parvenir un questionnaire à tous les groupements politiques lors des récentes élections provinciales dans le but de connaître leur programme vis-à-vis les soins pour les assistés sociaux qui ne seront pas immédiatement inclus dans l'assurance-maladie.



Le Dr Hubert LaBelle



Le Dr Jacques Dufour

L'ACDQ a pris la charge d'organiser le congrès provincial annuel qui a eu lieu cette année à l'Université de Montréal, les 21 et 22 mai.

Nouvelles étiquettes de mise en garde contre les préparations pour maux de tête

La Direction des aliments et drogues du Ministère de la Santé nationale et du Bien-être social a établi de nouvelles règles gouvernant l'étiquetage des médicaments contenant de l'acide acétylsalicylique. Afin de diminuer le risque que des enfants s'empoisonnent avec un comprimé contre les maux de tête, les nouvelles étiquettes devront mettre en évidence une mise en garde sur la posologie et la façon de ranger le médicament.

L'acide acétylsalicylique se vend soit sous son nom générique, soit dans des produits tels que: Aspirine (Bayer), Anacin, Bufferin, Dristan, Espirets, Frosst 217, Frosst 222, Instantine, Ospra et Tempelton TRC.

L'AAS est un analgésique relativement peu dangereux aux doses recommandées. La posologie indiquée pour les adultes est basée sur les doses limites fixées pour l'acide acétylsalicylique par la Loi sur les aliments et les drogues. La limite pour une seule dose adulte équivaut à trois comprimés à cinq grains, et pour la dose quotidienne totale, à neuf comprimés à cinq grains.

Chez quelques personnes extrêmement sensibles à l'AAS n'importe quelle quantité peut entraîner une réaction grave. A cause de leur taille, les enfants sont encore plus sensibles à la quantité d'AAS renfermée dans un produit. Par mesure de sécurité, ni l'AAS, ni aucun autre médicament ne doit être administré à un enfant de moins de deux ans, sauf sur la recommandation d'une autorité professionnelle compétente.

Chronique internationale

L'Association Dentaire Américaine projette d'augmenter la cotisation de \$20

Le Conseil d'administration de l'Association Dentaire Américaine a proposé une augmentation de \$20 des droits d'adhésion. La recommandation sera examinée lors de l'assemblée annuelle de l'ADA en novembre et, si elle est approuvée, sera appliquée en 1971.

Parmi les motifs urgents qui ont motivé l'augmentation de la cotisation, le Conseil a cité les services nouveaux ou améliorés que rend l'ADA et le coût élevé de la pratique des affaires. L'inflation seule augmente le budget sala-

rial de l'association de 5 p.c. par an et ceci pour faire face à l'augmentation du coût de la vie, sans tenir compte de l'avancement, du personnel nouveau et de la dure concurrence qui s'exerce sur le marché du travail.

Naissance de l'Association Dentaire Française

L'Association Dentaire Française a reçu son bulletin officiel de naissance le 16 janvier 1970. N. Derouineau et L. Hana-chowicz ont été élus Secrétaires Généraux de l'ADF, H. Samuel, Trésorier et M. A. Vignon, Conseiller Financier.

Les préoccupations les plus brûlantes de l'ADF sont actuellement: la révision du Code de la Santé Publique, permettant d'aboutir au Doctorat d'exercice; la mise sur pied d'une commission de la nomenclature à vie; le statut des enseignants et les modalités particulières de certaines de leurs rémunérations; les travaux des groupes de travail constitués par le Gouvernement pour la réforme des cycles d'étude; la nécessité d'une commission de démographie dentaire.

L'économie

Un comité législatif manitobain recommande la création d'une licence pour les mécaniciens

Selon un rapport préparé par un comité parlementaire du Manitoba, les mécaniciens dentaires devraient recevoir une licence. Le rapport, qui a été publié le 24 mars, envisage la refonte de la législation gouvernant tous les aspects de l'art dentaire.

Le comité propose la promulgation d'une nouvelle Loi des Services Dentaires divisée en quatre parties. La première partie traiterait de la profession dentaire, les trois autres s'appliqueraient aux techniciens, hygiénistes et mécaniciens dentaires.

En ce qui concerne la question des mécaniciens, qui avait été renvoyée par le parlement devant le comité, celui-ci a recommandé qu'ils reçoivent une licence d'artisan.

Les mécaniciens dentaires devraient se limiter aux prothèses complètes là où il n'y a pas de dents vivantes. Le rapport a affirmé qu'il leur serait interdit de donner des conseils professionnels à toute personne ayant des dents vivantes.

Le comité demanderait qu'un certificat buccal soit émis par un médecin ou un dentiste avant qu'un mécanicien puisse traiter un patient. Il interdirait également le titre de "denturologiste",

limiterait la publicité et exigerait le respect d'un code d'éthique. Le rapport recommande de plus "une inspection complète sous contrôle du gouvernement de l'état sanitaire et de l'obéissance de la loi".

Le rapport demande qu'un comité représentant le ministère de la santé, la faculté de chirurgie dentaire et les mécaniciens dentaires établisse un programme de formation des mécaniciens dentaires. Les mécaniciens et techniciens actuels disposeraient d'un an pour se qualifier après une date fixée par la loi ou par règlement.

Les mécaniciens dentaires devraient émettre des reçus officiels sur des formules approuvées par le gouvernement pour les travaux effectués. La mise en pratique et l'octroi des licences seraient confiés au ministère de la santé.

Les ordinateurs amélioreront la santé des Canadiens

Selon l'hon. John Munro, ministre de la Santé Nationale et du Bien-être, les ingénieurs industriels et les ordinateurs contribueront d'une façon importante à l'emploi plus efficace des effectifs de la santé au Canada.

M. Munro adressait la parole le 18 mars lors d'un colloque national sur l'application des ordinateurs dans le domaine de la santé. Il a fait allusion à l'assurance-maladie, aux nouveaux développements en hygiène publique, au contrôle écologique et à l'accent que la population met sur les activités physiques et les loisirs. Tout ceci contribue au développement et au maintien de la santé de tous les Canadiens et les ingénieurs et les ordinateurs y jouent un rôle.

"Les systèmes d'ordinateur", a-t-il déclaré, "peuvent permettre aux citoyens canadiens de se procurer des services de meilleure qualité".

Le ministre a indiqué que les professions de la santé pourraient devenir le deuxième employeur de main-d'oeuvre au Canada. "Même aujourd'hui, 70 p.c. du coût des soins de santé est dû aux honoraires et aux salaires".

"J'ai bon espoir", a-t-il dit, "que les rapports entre l'offre et la demande ainsi que les efforts de coopération entre ceux qui travaillent dans le domaine des services de santé et l'industrie des ordinateurs mènera à des proportions améliorées entre le coût et les prestations reçues".

Il a réclamé des programmes d'éducation qui donneraient lieu à un accueil favorable de la part du public à l'emploi des ordinateurs dans le domaine de la santé. "Les systèmes d'ordinateurs doivent prouver qu'ils ne sont pas des instruments impersonnels de la bureaucratie qui éloignent encore plus l'élément humain des soins médicaux".

La recherche

Comptes rendus sur l'immunisation contre la carie et les implants dentaires

Une nouvelle technique d'immunisation qui a provoqué une réduction de la carie de 67 p.c. chez les animaux a été décrite lors de la réunion de l'Association Internationale pour la Recherche Dentaire, qui s'est tenue à New York du 16 au 19 mars.

Le compte rendu d'Abdul Gaffar, de Piscataway, au New Jersey, a expliqué comment sont produits dans la salive et le sang des anticorps contre les bactéries cariogènes. Le Dr Gaffar a toutefois souligné que si les observations sur les animaux d'expérience sont encourageantes, il reste un très grand travail d'expérimentation à effectuer avant que l'immunisation soit considérée comme une méthode sûre, efficace et pratique de maîtriser les caries humaines.

Le Dr F. A. Young de Clemson, en Caroline du Sud, a décrit une racine de dent en céramique qui peut être implantée dans le maxillaire par une opération. L'équipe du Dr Young est en train de mettre au point un matériau de céramique qui peut se façonner et s'implanter comme une racine artificielle sur laquelle on peut placer une couronne ordinaire.

Les essais sont effectués sur des animaux, mais le Dr Young prédit que cette méthode pourrait être appliquée à des transplantations humaines d'ici deux ans.

La réussite à long court des implants dentaires de plastique chez les animaux pourrait indiquer que les chercheurs dentaires sont sur la voie de la réussite en ce qui concerne l'implantation de dents de plastique chez l'homme, selon le Dr S. M. Kennedy de Boston.

Jusqu'à présent, six mois après l'implantation des dents de plastique chez des singes, la majorité de celles-ci sont fermement en place et les gencives et l'os de soutien paraissent en bonne santé.

Le Dr Kennedy a attribué le succès de l'implantation au soin apporté à l'extraction des dents naturelles, à leur reproduction en plastique dans tous leurs détails, à la fixation des implants de plastique aux dents naturelles voisines et surtout à l'emploi d'un régime mou qui permet à l'implant de se fixer fermement dans l'os de soutien.

D'autres résultats de recherches furent signalés:

- Un nouveau test qui se fait au fauteuil avec un échantillon de liquide lacrymal et qui pourrait servir au dentiste à dépister les patients diabétiques.

- Une technique de greffe osseuse

à l'aide d'un implant métallique pour corriger les pertes osseuses du maxillaire et qui pourrait soulager les patients dont les prothèses posent des problèmes.

La fluoruration

L'ADC demande à Ottawa de prêter son appui au 25^e anniversaire de la fluoruration

Le Directeur Général de l'ADC, le Dr W. G. McIntosh, a invité le Ministre de la Santé Nationale et du Bien-être à donner son approbation sans équivoque à l'occasion du 25^e anniversaire des débuts de la fluoruration au Canada.

Brantford, Ont, a été la première municipalité au Canada et la troisième au monde, à entreprendre la fluoruration contrôlée lorsqu'elle a commencé à fluorurer l'eau potable le 20 juin 1945.

Dans une lettre écrite à l'hon. J. Munro, le Dr McIntosh a fait l'éloge de la délégation canadienne qui a parrainé une résolution sur la fluoruration adoptée l'année dernière par la 22^e Assemblée de l'Organisation Mondiale de la Santé.

"Le contenu de cette importante résolution devrait être mieux connu du peuple canadien, particulièrement par ceux qui sont responsables de la réalisation de mesures d'hygiène publique telles que la fluoruration", a dit le Dr McIntosh.

"Une déclaration publique à ce sujet de votre part constituerait une excellente manière d'atteindre cet objectif", a dit le Directeur Général de l'ADC. Il a suggéré "qu'une déclaration du Ministre de la Santé Nationale et du Bien-être qui donnerait son approbation sans équivoque au principe de la fluoruration aurait beaucoup d'influence. Nous sommes certains qu'elle fournirait la direction requise afin de favoriser le progrès de cet important projet".

L'hygiène publique

Succès d'un programme dentaire en C.-B.

Selon Frank McCombie, directeur de la division dentaire provinciale, il y a eu un déclin de 23 p.c. de la carie dentaire des enfants de la Colombie-Britannique qui sont âgés entre 7 et 15 ans. En 1959 la moyenne des dents permanentes qui avaient été atteintes de carie était de 6.2; à l'heure actuelle, elle n'est que de 4.8 dents par enfant. Durant les dernières 10 années, la proportion des enfants qui n'ont

pas de dents cariées non-soignées a plus que doublé de 15.5 à 35.6 p.c. Chez les enfants âgés de 15 ans, le rapport de ceux qui ne démontrent pas de dents cariées non-soignées a plus que triplé, de 16.4 à 52.8 p.c. Le Dr McCombie attribue ces résultats au travail effectué par les membres de la Division de dentisterie préventive et la coopération des praticiens de la province.

Les régions qui n'ont pas de dentiste sont desservies par des externes dentaires, a expliqué le Dr McCombie. Le programme a débuté il y a déjà huit ans. L'année dernière, huit jeunes dentistes ont visité plus de 50 communautés. Avec l'aide d'un équipement portatif léger, ils ont fourni des soins dentaires complets à 2,500 jeunes enfants. Le programme dentaire externe est organisé par la communauté elle-même et les parents paient des honoraires purement nominaux pour chaque enfant qui a été soigné. Le solde du coût est partagé entre le département provincial de la santé et la communauté. Les externes soignent également les enfants plus âgés et les adultes mais ils sont payés à l'acte.

Le Dr McCombie a décrit un autre programme qui a eu beaucoup de succès. Il procure des services dentaires préventifs aux enfants des régions rurales. Dans chaque communauté, le programme est organisé et encouragé par le Département de la santé de la C.-B. et reçoit l'appui d'un groupement issu de la communauté. Selon le Dr McCombie, le succès de ces programmes provient de l'accueil favorable que leur réservent les praticiens locaux.

Il y a quatre ans, on a apporté une innovation à ces programmes en établissant l'usage de cartes d'anniversaire pour les enfants de 3 ans. Cette carte est envoyée par le département de la santé lorsque l'enfant atteint l'âge de 3 ans et invite les parents à l'amener au dentiste de la famille pour un examen gratuit, des radiographies, des applications topiques de fluor et ils reçoivent des conseils de santé. Le dentiste ne perçoit que des honoraires modestes du département de la santé pour ces services. Ces programmes étaient en vigueur l'année dernière dans 38 districts scolaires où il y avait un dentiste permanent. Dans quatre districts le service a même été accepté dans des proportions de plus de 80 p.c.

Le Dr McCombie rapporte que l'un des dentistes consultants, le Dr A. S. Gray, poursuit des études post-universitaires à l'Université de Montréal sur la croissance et le développement de la cavité buccale et sur les maladies des tissus moux. Lorsqu'il reprendra ses fonctions, le Dr Gray compte lancer une étude-pilote sur la prévention de la malocclusion et des maladies périodentaires.

Laval University embraces the health science concept



Louis-Philippe Bonneau
Vice-rector
Laval University



Gustave Ratté
Director of dental surgery
Laval University

Quebec City's Laval University, North America's oldest French language institution of higher education, is moving to integrate the faculties and related institutions charged with the education and training of health professionals. The objective is to develop a thoroughly modern health sciences centre as a major source of trained health manpower for the province of Quebec.

Louis-Philippe Bonneau, vice-rector for health sciences, Laval University, told a recent meeting of the Association of Canadian Faculties of Dentistry of progress at the university toward achieving an integrated approach to teaching in the health sciences.

M. Bonneau said the situation at Laval, up to a few years ago, had been "quite normal compared to the average situation prevailing in many universities."

He said "medicine was taught on campus for the basic sciences and clinical teaching was done in many so-called affiliated hospitals."

The five hospitals with which the medical faculty was affiliated had varying standards and conditions, said M. Bonneau. In consequence "the quality of the individual courses was spotty." The overall effect was "an average situation" which produced "an average quality doctor."

"Pharmacy was oriented toward the drug store and the students underwent training by clerking. Nursing was still taught exclusively in hospitals. Physiotherapy was in its infancy." Dentistry was not given at the time although discussions were going on for its implementation.

However, the speaker noted, there was even then "a creeping tendency toward specialization; one talked more and more of team efforts; the notion of health sciences was becoming more evident."

The 1966 commission

In July 1966, a commission was set up to study relations between the faculty of medicine and affiliated hospitals. It also was charged with responsibility for looking at the teaching of all health sciences, including dentistry, pharmacy, nursing, rehabilitation, medical technology, social work, psychology and dietetics.

M. Bonneau said it was soon evident to the group (of which he was a member) that a complete understanding of the problem would come about only through "an evaluation of the teaching methods and an overhaul of the orientation of courses of studies."

The group's first report, dealing with hospital relations, was produced in a year but a second report, covering integration of all divisions into a single health sciences centre, took longer.

For the second report, the commission was enlarged to include Gustave Ratté, Laval's director of dental surgery. Other members were the director of the school of pharmacy, the director of the school of nursing, the director of the school of rehabilitation and the administrator of the school of medical technology.

"It was quite surprising," M. Bonneau noted, "to find how little factual information was available."

"We had to dig up most of the data on numbers of persons involved, budgets allotted to this and that specialty. We found, for instance, that in two hospitals, not the smallest, tooth extractions were done in a straight backed chair!"

"The overall impression gained from the facts thus collected was one of paucity and scarcity as far as clinical teaching is concerned. In quite a few instances, there was no organized teaching at all."

Team approach; common curriculum

The commission directed its major attention to the team approach in the university and its related hospitals.

In such an approach, M. Bonneau said, "the leadership of the team must go to the most competent of the members. This reality has to be recognized and accepted."

"We also stress the fact," the speaker added, "that as long as remuneration of the members of the university team for equivalent responsibilities differs by factors as large as three, the team cannot be made up of equals who will respect each other."

One of the approaches taken, M. Bonneau explained, is the offering of a common first year of a curriculum designed jointly by the various health science divisions. The second and third years are also common to all divisions, but in declining proportions. After the first three years every program is terminated by a baccalaureate in health sciences.

"We feel that about 80 per cent of the courses offered during the first year will be common to all students. In the second year the percentage is about 50 and in the third year about 40," he said.

M. Bonneau explained that for some divisions, such as nursing, the three year course is terminal but that for others, clinical teaching "in concentrated fashion" is given for one or two years more.

He said that steps taken to develop a unified health sciences approach included appointment of a teaching co-ordinator on the hospital staff, scheduling courses common to two or more of the professions, and broadening the liaison committee which brings together the teaching hospitals and the faculty of medicine.

Looking at American Medicine's Future — The real question before the nation is, "How do we want our country to be organized? How much power are we willing to give to the central government? How much voluntarism is to be left to individuals?" In the final analysis, what kind of physician-patient relationship do we want—one in which the patient is served only by salaried MD's in the employ and under the direction of government, or a pluralistic system in which the patient can choose between traditional fee-for-service

private practice or a prepaid group with capitation and salaried arrangements, or some other approach? The American Medical Association prefers a multiple approach based on a partnership between government, the consumer, and the doctor, with a maximum degree of professional freedom for the doctor and a personal choice for the consumer; and with the natural flexibility inherent in such a multi-faceted system to permit change and . . . experiment . . . —E.B. Howard, MD, Executive Vice-President, American Medical Association.

Role of nutrition in the prevention and treatment of periodontal disease

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Nutritional deficiency is not a significant factor in the type of periodontal disease commonly encountered in North America. Consequently, indiscriminate prescription of nutritional supplements, especially of vitamin C, has no practical value for the prevention or treatment of this disease.

La carence nutritive n'est pas un facteur important dans le type de maladie périodontique que l'on rencontre couramment en Amérique du Nord. Par conséquent, la prescription au hasard de suppléments nutritifs, surtout de vitamine C, n'a pas de valeur pratique pour prévenir ou traiter cette maladie.

All living tissues need an adequate supply of essential nutrients. They need even more during growth, repair and inflammation, or other cellular activity.

Cellular metabolism suffers and tissue function is impaired when nutrition is inadequate. As a consequence, the body is starved or shows signs of a specific nutritional deficiency.

These observations led to early speculation that nutritional deficiency might also play a role in chronic periodontal disease. By pinpointing the cause, scientists thought they might be able to prevent or cure the disease by stepping up the consumption of a deficient nutrient. The role of nutrition in periodontal disease has accordingly received considerable attention. This article reviews several previous studies and presents current information on the subject.

Local irritation

Since endocrine, dietary, functional and environmental changes affect cell metabolism, we would expect the periodontium to respond to metabolic alterations like other body tissues. But it is hard to determine how much of a particular nutrient is necessary to maintain periodontal health under various physiological and pathological conditions. The assessment of the nutrients and their interdependence in the diet is a problem in itself. Measurement of their absorption, metabolism and utilization is likewise difficult, and the presence of inflammation may add further complications.

Though marginal gingivitis and ulceration are caused by local irritation, they can be modified or accentuated by systemic influences that alter the body's resistance to injury or its capacity for repair. Nutrition is one of these systemic influences.

The diseases which the periodontal structures suffer are associated with their unique function of supporting the teeth. The periodontium is exposed to irritants that are peculiar to, and dependent on, the presence of teeth. These irritants are of three kinds: (1) the bacterial masses which accumulate on the tooth surfaces in close proximity to the gingival margin, (2) chemical and thermal variation of foods that

are bitten into and pressed against the gingival tissues, and (3) the forces of mastication transmitted directly to the soft tissues surrounding the necks of the teeth and the deeper periodontal tissues.

Though the nutritive aspect of the diet is of prime importance, its local effect cannot be ignored. Diet affects periodontal disease locally by encouraging or discouraging accumulations of bacteria on the tooth surface. In the common form of periodontal disease the local irritant is bacterial in origin.¹ Bacteria collect at the marginal gingiva as plaque or *materia alba* and produce irritant substances in direct contact with the gingival tissues. As the plaque spreads over the tooth surfaces its progress is hindered by mechanical removal. The latter is mediated by the friction of lips, cheek and tongue, by oral hygiene procedures, and by mastication. The amount of debris around the teeth at any given time thus reflects a balance between plaque formation and its mechanical removal. Since mastication is one of the cleansing factors, the consistency of the food is important but this quality must not be confused with the nutritional aspect of the diet after it has been absorbed.

Nutritional deficiency

The local irritant and the expected inflammatory response are evident in most cases of clinical periodontal disease. Sometimes, however, one or the other is conspicuous by its absence. Faulty nutrition is commonly blamed in such cases, especially when there is no evidence of systemic disease. However, the role of nutrition in the aetiology and treatment of periodontal disease remains obscure. The literature on the subject is conflicting. Experiments which have been reported cannot readily be checked, and clinical reports are often at variance with clinical experience.

Gingivitis is more severe and more prevalent in malnourished groups; but their oral hygiene is also worse.^{2,3} A hundred years ago Harris⁴ observed that "persons who pay no attention to the cleanliness of the teeth are particularly subject to periodontal disease and that the disease seems to be the result of general debility or defective nutrition."

Daily nutritional requirements vary from person to person, one individual adapting to a low daily intake of a particular nutrient while another becomes ill. But, apart from such individual variations, the level of disease is linked with the degree of deficiency of the nutrient involved. Quantities of a nutrient that exceed the amount which a cell can use are simply wasted. Such an excess is usually asymptomatic except in those few instances where it hinders the absorption or utilization of another nutrient that is present in marginal amounts.

Kwashiorkor, a severe protein deficiency in African and Indian children, is characterized by loosening of the teeth which may fall out. Pindborg⁵ has reported that 4 per cent of the victims suffered acute necrotizing gingivitis, noma, atrophy of the papillae of the tongue, coating of the tongue and angular cheilosis. Children free of the disease did not have these severe disorders. In kwashiorkor patients the periodontal index was 50 per cent higher. These children showed additional evidence of severe illness, such as diminution in body size, abdominal distension, oedema of

the extremities, and sparse and depigmented hair which was ginger, yellow or whitish, rather than black.

Protein deficiency in its most severe form does not produce specific periodontal disease entities. Emslie,⁶ who studied protein deficiencies in Africa, found that they were not a factor in the development of gingivitis or cancrum oris. Though terminal cases of noma were seen in German concentration camps, there are no reports that periodontal disease was a feature of starvation.

In animals, gingivitis occurs in the terminal stages of all vitamin deficiencies; but in Japanese prison camps, the only oral signs observed in American prisoners with pellagra were glossitis and buccal stomatitis.⁷

Several forms of malnutrition manifest periodontal lesions, but periodontal disease in the United States and in Canada is not of this type. Malnutrition is unusual on this continent and confined to the lower income groups. Yet the incidence of periodontal disease is high and the disease is prevalent in all strata of society.

Navajo Indians illustrate what happens to the oral mucosa when the diet falls short of accepted standards.⁸ These semi-nomads live in a sandy, arid, desert region and subsist on what little they can produce for themselves or buy from a trading post. Their diet is almost completely devoid of fresh fruit, vegetables, dairy produce and fish. Yet Navajo children on the poorest diet were found to have the best gingival condition. Their gums, in fact, were better than those of the healthiest white children.

Darby⁹ has described several examples of malnutrition among Navajos. In 60,000 patients he observed 10 cases of pellagra, two each of scurvy and beriberi, one of rickets and 73 of general malnutrition. Although the serum ascorbic acid was under 0.3 mg per cent in half the children he examined, Darby found no relationship between the serum level of this vitamin and gingival health.

Unpublished data from other surveys tend to corroborate these findings. For example, Papago Indians on the US-Mexican border also have healthy gums despite their very restricted diet. They subsist almost exclusively on tortilla and beans but get no fresh fruit or dairy produce. Hopi Indians, on the other hand, enjoy a more sophisticated diet but have higher gingival scores. Their gums resemble those of people living on a typical western diet.

Of all the groups examined, the healthiest were the Navajos living in the remote area of their reservation and the Papagos on the Mexican border. Both groups ate a very restricted diet, did not clean their teeth, and had a good deal of subgingival calculus despite the abrasive nature of their food. In various other surveys I have observed the poorest periodontal health in large groups of orphanage children and similar groups of institutionalized mentally sick patients. Both groups received adequate diets according to the accepted standards.

Vitamin C deficiency

Vitamin C deficiency deserves special consideration because of its specific effect on the periodontium. Fully developed cases of scurvy are now rare but were

common in Harris' day. This keen observer has left us the following description: "The gums of scorbutic persons have a reddish-brown colour, their margins are imperfectly festooned and thick, their structure rather disposed to become turgid and ever ready in the slightest cause of local irritation to take on a morbid action. When thus excited, the blood accumulates in their vessels when . . . it gives to the gums a dark purple or brown appearance, they swell and become spongy, flabby and bleed from the slightest touch. To these symptoms supervene the exhalation of a fetid odour, the destruction of the bond of union between them and the necks of the teeth, separation and recession of the margins of the same, gradual wasting of the alveolar cavities, loosening and, not infrequently, the loss of several or the whole of the teeth."

Ever since the discovery that vitamin C affects the gingiva, dentists have used large doses of the vitamin to treat bleeding gingival margins, inflamed periodontal tissues and loose teeth. Such treatment seemed logical for, apart from a superficial similarity in the manifestations of scurvy and periodontitis, it was found that lack of vitamin C weakens the walls of small blood vessels and reduces collagen formation with consequent mobility and loss of teeth. This evidence was coupled with the fact that humans, who are highly susceptible to periodontal disease, cannot synthesize vitamin C whereas most animals, who have a low incidence of periodontal disease, can do so.

In 1933 Hanke¹⁰ reported that orange juice and lemon juice were so effective in children that these juices should be included in the treatment of all periodontal disease. Though several others have claimed highly encouraging results from vitamin C therapy, no one has ever demonstrated a relationship between levels of the vitamin and periodontal disease, nor has supplementation of vitamin C proved beneficial.¹¹⁻¹⁵

Though the clinical symptoms of periodontal disease bear only a superficial resemblance to scurvy, its prevention by daily ingestion of a few milligrams of vitamin C remains extremely popular. Actually, a daily intake in excess of 10 mg has no preventive or remedial value. In fact, unwarranted prescription of this vitamin lulls many into a false sense of security so that preventive measures and appropriate treatment for periodontal disease are neglected.

Vitamin C's marginal role in periodontal disease has been confirmed in several studies. One of these involved chronically ill mental patients who had a low serum ascorbic acid and a very high incidence of severe gingivitis and bleeding from the gingival crevice. Some of the patients were given an additional 500 mg of ascorbic acid daily for six weeks. Though their plasma ascorbic acid level rose from 0.254 to 0.81 mg per cent, the condition of their gingiva remained unaltered.¹⁶

In another experiment, Crandon¹⁷ consumed a vitamin C deficient diet for five months without incurring gingival changes. Only after six months did he observe slight changes at the gingival margin.

Linghorne and McIntosh,¹⁸ who examined air force personnel, found that gingival inflammation is common in healthy young adults and that large doses of vitamins, including ascorbic acid, have no clinical effect. Daily doses of ascorbic acid did, however, delay the recurrence of inflammation when gingivi-

tis was treated locally. Their study lasted five months and embraced the effects of vitamin A, vitamin D, thiamine, riboflavine and nicotinic acid as well as vitamin C.

Coven¹⁹ tested the effect of vitamin therapy in 267 children divided into four groups. Each group received prophylaxis plus (1) a placebo, or (2) vitamin C, or (3) vitamin B complex, or (4) multivitamin supplements for 28 days. Only group 4 experienced a statistically significant reduction of the periodontal index. The multivitamin supplement contained vitamin A, vitamin D, thiamine, riboflavine, niacinamide, pyridoxine, cyanocobalamin, calcium pantothenate, biotin and ascorbic acid.

Apart from fluoride, there is little evidence that trace elements influence periodontal disease. According to Russell,²⁰ there is less periodontal disease in areas where the drinking water contains an optimum amount of fluoride, and Englander et al²¹ suggest that fluoridated water retards the progress of destructive periodontal disease.

In 1962 Russell¹³ surveyed over 12,000 individuals in five countries and ascertained body levels of vitamin A, ascorbic acid, thiamine, riboflavine and methyl nicotinamide. He also measured dietary intakes of calcium, riboflavine, thiamine, ascorbic acid, total calories and protein. There was no correlation between periodontal health and group levels of vitamin A or ascorbic acid or in the urine excretion of these substances. Russell therefore concluded that nutritional disturbances are not involved in the aetiology of periodontal disease in the well developed countries. Four years later he modified this view by suggesting "that adequate nutrition might be a beneficial factor. This may be true despite our inability to demonstrate any consistent relation between disease levels and inadequate intakes of body fluid concentrations of such items as vitamin A or ascorbic acid, thiamine, riboflavine, niacin, calcium, protein, iron or total calories . . . findings establish a high probability that periodontal disease is not a manifestation of a specific nutritional deficiency (similar to beriberi or pellagra)."²²

However, says Russell, the possibility remains that non-specific depletion may hasten the process of deterioration. Periodontal deterioration is largely prevented by effective personal and professional oral hygiene and when teeth are kept free of calculus.

Variations in the incidence of periodontal disease among different populations suggest that the disease is susceptible to control. However, nutrition does not seem to play a significant role in this regard.

Waerhaug²³ also tested the relationship between periodontal conditions and clinical signs of vitamin A and B deficiencies in various parts of the world but found no correlation between nutritional levels and the status of periodontal health. He concluded that vitamin deficiency is not an important aetiological factor in developing nations; and in more advanced countries, vitamin deficiencies have no public health importance in periodontal disease.

In the United States and in Canada, therefore, periodontal disease is not associated with nutritional deficiencies or dietary inadequacy. In other words, nutritional deficiency is not a cause of periodontal disease on the North American continent. Consequently, nutritional supplementation cannot logically be used for the prevention or treatment of commonly encountered periodontal disease.

Summary

Though systemic factors may participate, local irritants are largely responsible for the production of chronic periodontal disease. Nutritional deficiency is not an aetiological factor in periodontal disease encountered on the North American continent. Its prevention or treatment by means of nutritional supplements like vitamin C is therefore unwarranted unless a specific deficiency of the nutrient can be demonstrated.

Doctor Parfitt and Doctor Speirs are with the Department of Oral Medicine, Faculty of Dentistry, University of British Columbia, Vancouver 8, BC.

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- National Convention Flash* — The promotional program mailed to all dentists last month contains an error which suggests that the social program is restricted to members of the Canadian Academy of Paedodontics. This is, of course, incorrect. The social program is open to all convention delegates and their ladies. Readers are urged to mail advance registrations immediately as hotel accommodation in Winnipeg is limited. Advance registration forms were published on page 106 of the March Journal and are also included in the promotional program.

Use of the lingual arch for space maintenance and minor tooth movement

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E. M. Barnett, BS, DDS
Washington

The unique characteristics of this versatile appliance make it the instrument of choice for certain types of space maintenance and orthodontic tooth movement. This article describes the requirements and the construction of the lingual arch and illustrates its clinical application.

Les caractéristiques uniques de cet appareil en font un instrument de choix dans certains cas de maintien d'espace et de mouvement orthodontique de la dent. L'article décrit ici les conditions requises, la construction de l'arc lingual et illustre son application clinique.

Though the need for space supervision is well documented, the high incidence of caries has diverted attention from this much needed service. But the caries problem is changing and tooth decay may virtually disappear by 1978.¹ There is similar hope for the control of a substantial proportion of periodontal disease by the use of certain enzymes which reduce the formation of calculus.²⁻⁴ These developments will permit the general practitioner to enlarge the scope of his services to include space maintenance and minor orthodontic treatment.

The lingual arch is one of the most effective appliances for this purpose. This paper describes some of the requirements and applications of this versatile appliance. Its use, of course, presupposes an understanding of growth and development. Not all cases of "simple" malocclusion are amenable to mere mechanotherapy (Fig 1), and patients who are to be treated with a lingual arch must be carefully selected.

Space maintenance is more than just a simple technical procedure. Not only must the appliance be correctly made, but it requires periodic supervision. It may need adjustments and additions from time to time as the teeth erupt. A skilled dentist must anticipate and be prepared to make such modifications.

The simple lingual arch consists of two molar bands and a lingual arch wire which has a definite relationship to each tooth in the arch. Its construction has been described by Tarpley.⁵

Advantages of the lingual arch

The appliance possesses the following advantages:

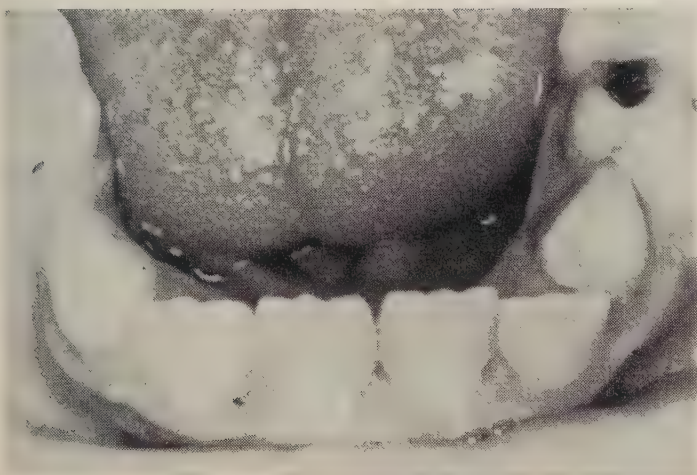
1. It is an excellent source of anchorage because it incorporates resistance of several teeth.
2. It allows free individual movement of teeth while maintaining space in the desired areas.
3. It causes little or no inconvenience to the patient.
4. It is easily removed, adjusted and replaced; yet, being fixed, the dentist does not have to rely unduly on the patient's cooperation as with removable appliances.
5. It is less bulky than removable acrylic appliances.



A



B



C



D

Fig 1 A-B, band and loop space maintainer in a patient with Class II molar relationship. The lower left lateral incisor is blocked out in labioversion. C, occlusal view of the same case shows crowding and lack of space. D, large diastema between the maxillary incisors and lips that are apart when at rest. The patient is a mouth breather.

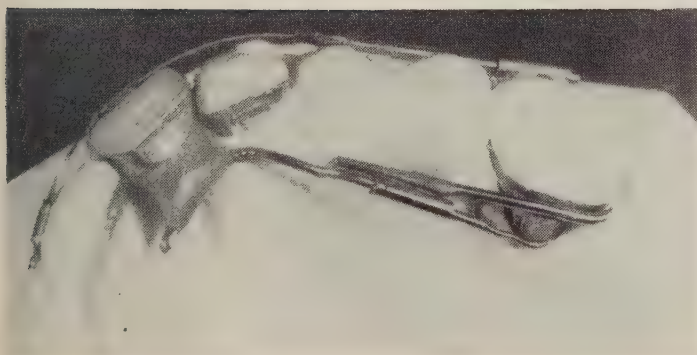


Fig 2 A lingual arch used as an anterior space maintainer.

6. It is less conspicuous than other space maintainers.

7. A single appliance serves to maintain space for all the succedaneous teeth in an arch.

8. The appliance seldom needs repairs or alterations. Repairs are easy and quick.

Indications

A lingual arch (Fig 2) is ideally suited as an anterior space maintainer. An artificial replacement for a lost tooth can find support on the arch wire. Anterior space maintenance and tooth replacement are desirable for aesthetic and psychological reasons; they also diminish the likelihood of speech problems, un-

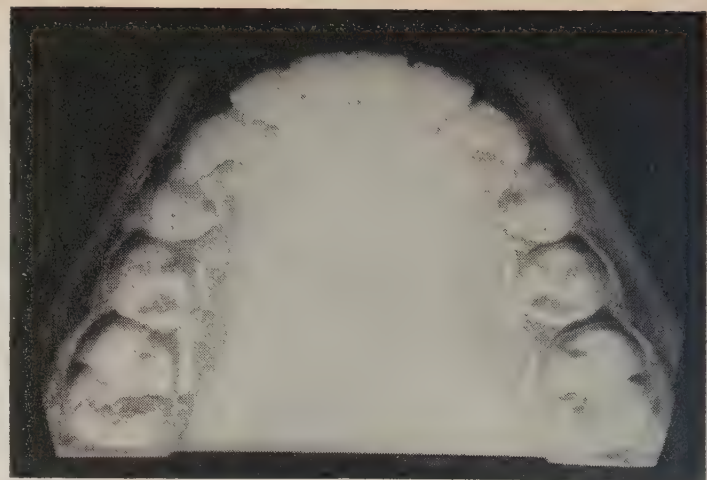
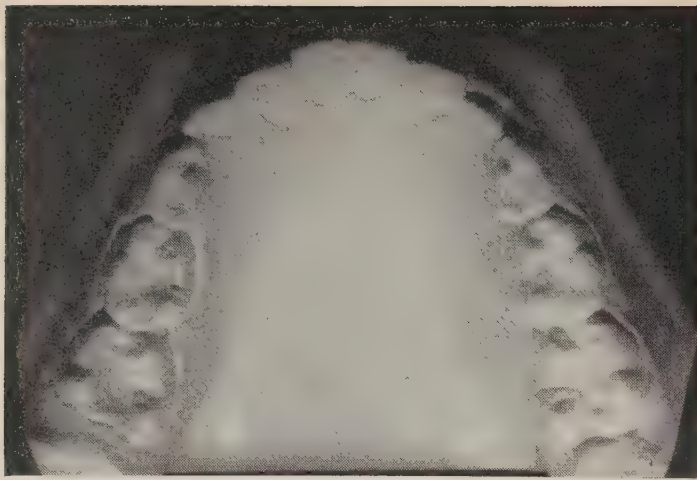


Fig 3 A, cast of lower jaw with insufficient space for the permanent cuspids. B, same cast after treatment with a lingual arch which prevented mesial drift of posterior teeth.

favourable tongue habits and, in some cases, tooth drifting and loss of space for the permanent teeth.

When erupting cuspids have insufficient space (Fig 3A), the first primary molars can be extracted to allow the cuspids to erupt into normal occlusion. A lingual arch will prevent any mesial movement of the first permanent molars during subsequent transition from mixed to permanent dentition (Fig 3B).

Space maintenance is desirable when the second primary molars are lost prematurely and there is adequate but not excessive space for the second bicuspid. The lingual arch is most economical when space maintenance is required bilaterally or at multiple sites in the same arch.

Occasionally, some first permanent molars are still lost due to caries soon after the second permanent molars erupt. This can subsequently be remedied by a fixed bridge if the rest of the occlusion is normal. Space for the pontic can be preserved by a space maintainer. Since it has to stay in place for a long time, a fixed appliance like the lingual arch is preferable.

Types of lingual arches

The arch may be soldered to the molar bands, but removable arch wire is preferable. Preformed .040 inch stainless steel wires are available for the construction of a lingual arch (Fig 4). These can be inserted into vertical tubes on the lingual surface of the molar band. Alternatively, a half-round post or shaft may be soldered to .040 inch precious metal round arch wire (Fig 5). The arch is kept in place by the frictional fit of the post in the tube and, with precious metal appliances, by an additional dead-soft lock wire which is soldered immediately in front of the post.

Figure 6 shows a soldered lower lingual arch space maintainer. This type of arch wire does not need soldered or welded attachments on the bands. Consequently, the finished appliance is smooth and symmetrical. The lingual arch touches all the teeth and rests as low as possible on the lower incisors.

The maxillary lingual arch must not interfere with occlusion of the lower teeth. Casts of both jaws are

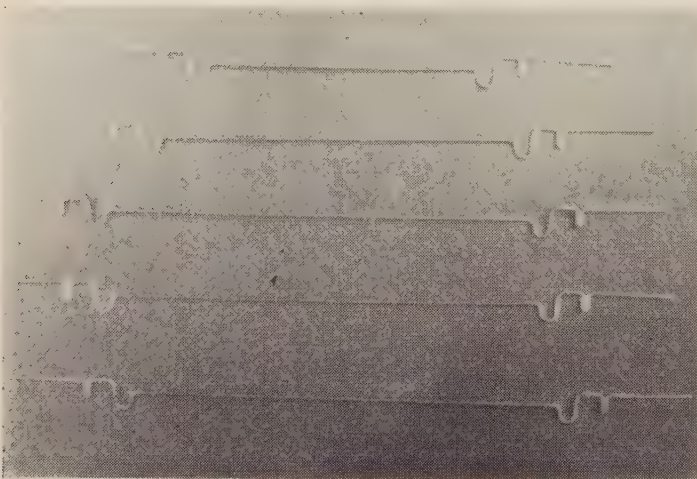


Fig 4 Preformed stainless steel lingual arch wires.

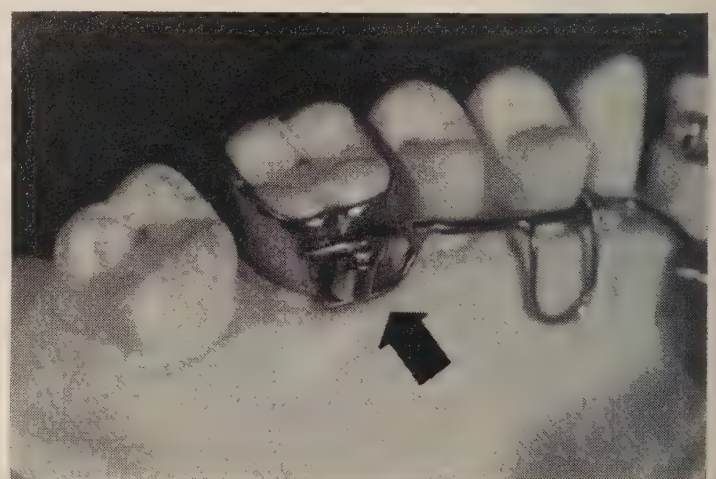
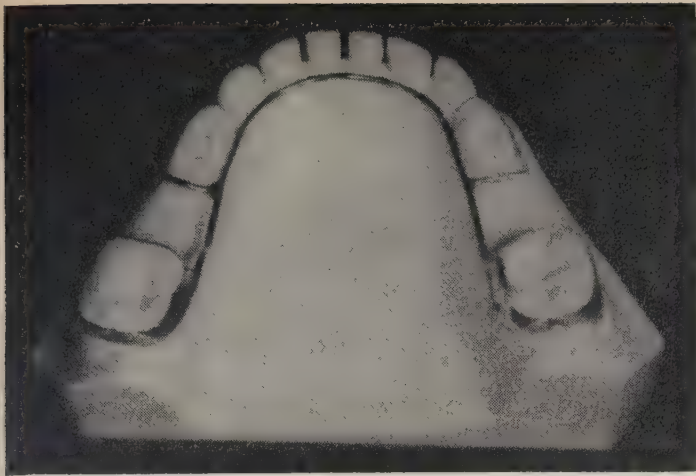
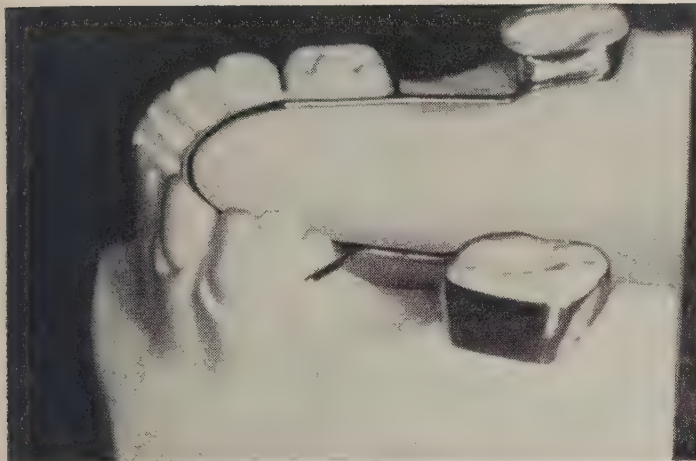


Fig 5 Close-up view of a removable lingual arch shows the half-round post in the half-round tube soldered onto the band.



A



B

Fig 6 A, occlusal view of a soldered lingual arch. Notice the smooth, symmetrical, straight-line construction. B, side view shows how it touches all the teeth. C, close-up view shows how it rests on the anterior teeth.



C

therefore necessary. The upper cast is marked where the lower incisors occlude. This determines the anterior limit of the maxillary lingual arch. The arch wire is bent back over the rugae in patients with marked overbite and considerable overjet (Fig 7). Thus, instead of following the contour of the upper incisors, it cuts across the palate from the middle of one cuspid to the other, following the contour of the palate. A small acrylic palatal button may be incorporated to reinforce the anchorage. Cuspid anchorage is also essential in a cut-back lingual arch of this nature. This is achieved by letting the wire rest against the cingulum of the cuspid.

Requirements of a lingual arch

1. The arch wire should approximate the entire length of the lingual surface of the molar band. Its free distal end should touch the band. Wire and band should also have contact at the post. As it approaches the bicuspid, the wire should curve gently to touch the mesiolingual surface of the molar. This three-point contact (Fig 8) prevents undue rotation of the molars when the frictional fit of the post in the lingual tube is less than optimal. This can happen if the dentist grinds

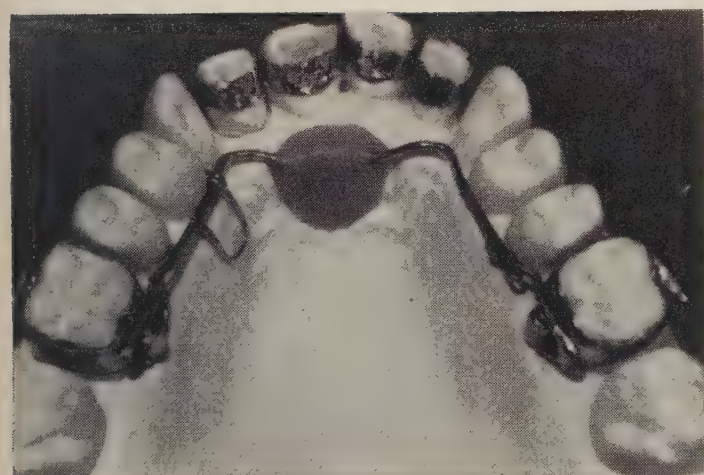


Fig 7 Cut-back upper lingual arch with acrylic palatal button.

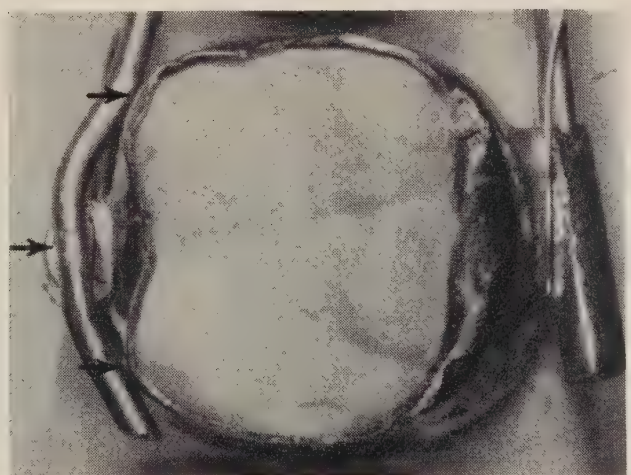
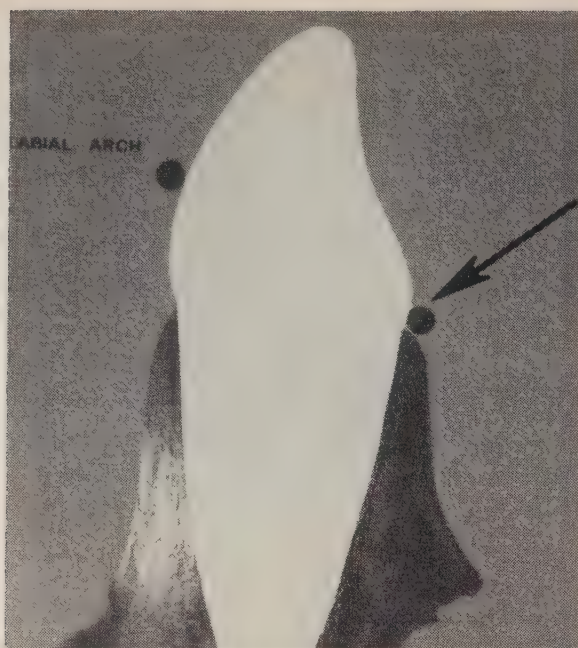


Fig 8 Three-point contact between the arch wire and the molar band improves stability and anchorage.



A



B

Fig 9 A, arrow shows correct position of lingual arch on the incisors. B, if placed higher on the tooth, the arch wire is apt to ride up the incline plane on the lingual surface of the incisors.



Fig 10 Lingual arch with vertical loop spring and horizontal recurved spring.

away small amounts of solder that have run down the post. The correct solution is to solder another post to preserve the frictional fit.

2. The arch wire must touch the bicuspid as it travels in a straight line from the molar to the cingulum of the cuspid. If the molars then try to move forward, carrying the lingual arch with them, its wider posterior segment would have to displace the bicuspid or primary molars. Touching these teeth, therefore, increases resistance to mesial movement. An added advantage arises from harnessing the resistance imparted by all of the remaining natural teeth.

3. The arch wire should rest against the cingulum of the cuspid to avoid penetration of the palatal soft tissue.

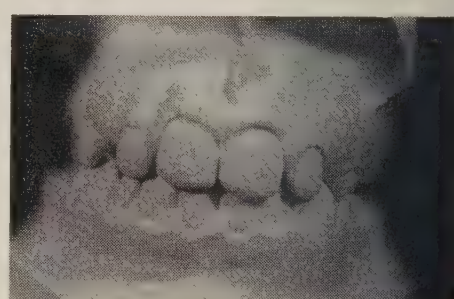
4. The arch wire should rest against the lowest point on the anterior teeth (Fig 9A). Wires that rest



A



B



C

Fig 11 A, casts showing open bite resulting from deviate swallow. B, the habit was corrected by a tongue guard on the maxillary lingual arch. The incisors were not banded and no labial wire was used. C, result after treatment.

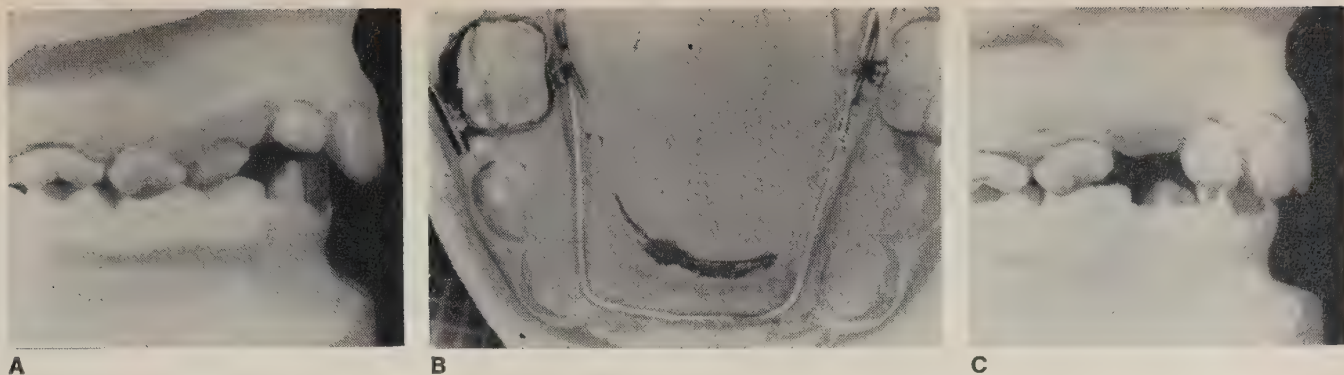


Fig 12 A, lateral view of a cast showing protrusion and irregularity of maxillary anterior teeth. B, lingual arch used to correct this malocclusion. The arch was used as anchorage for Class II elastics extending from the upper cuspid region to the lower molar region. C, lateral view shows the correction achieved.

higher tend to ride up the incline plane of the lingual surface of the incisors (Fig 9B). The molars can then move forward, sacrificing space needed for the eruption of posterior teeth. Arch wires that occupy the lowest position on the incisors lie nearest the fulcrum of these teeth—the point of maximum resistance to tipping or bodily displacement.

5. The appliance should be symmetrical. Irregularities due to malposed teeth should be local.

6. It must not interfere with the occlusion.

7. The arch wire must be passive.

8. It must not impinge on the gingiva or the palatal soft tissue.

9. There must be no defects or irregularities which could weaken the wire.

Minor tooth movements with a lingual arch

Minor tooth movements such as closing a small diastema, correcting a crossbite or straightening a tooth are easily achieved with a lingual arch. These movements are accomplished with finger springs and

loop springs made of very fine wire (Fig 10).⁵ Maximum activation of the springs must not exceed more than a millimetre at any given time.

The small acrylic button incorporated in a maxillary cut-back lingual arch can aid proper positioning of the tip of the tongue in myofunctional exercises (Fig 7).

Yet another use of this versatile appliance is illustrated in Figure 11 where a tongue guard on a lingual arch was used to correct an open bite due to deviate swallow. The incisors were never banded, and no labial wire was used.

Figure 12 portrays the correction of protruding incisors by upper and lower lingual arches. Class II elastics were extended from the upper cuspid region to the lower molars. The lower arch provided anchorage to prevent forward movement of the lower first molars.

Irregular lower incisors can also be re-aligned with finger springs on a lingual arch (Fig 13). Figure 14 shows a case of molar crossbite corrected by a modified lingual arch. Figure 15 shows a rotated maxillary right first molar which interfered with eruption of the

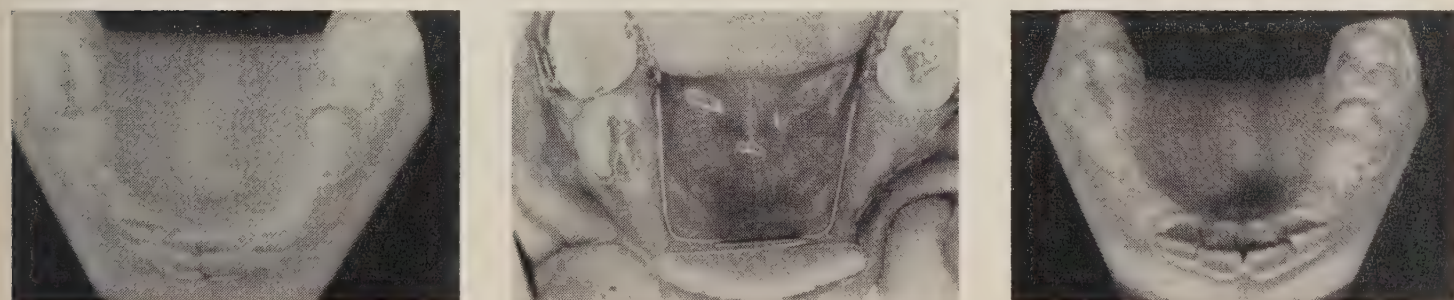
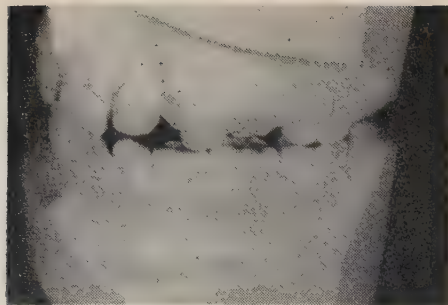
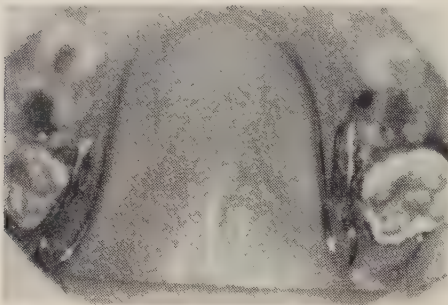


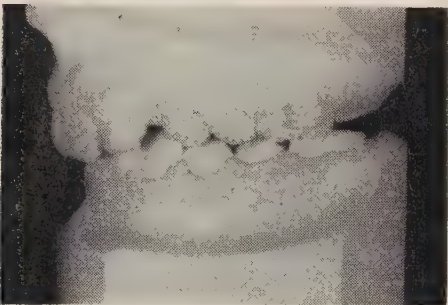
Fig 13 Lingual arch with finger springs corrects irregular incisors.



A

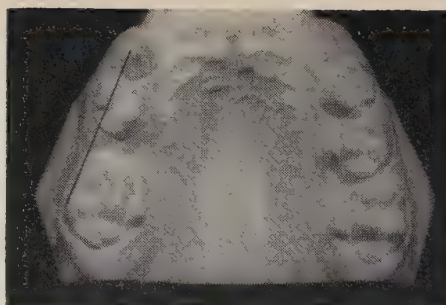


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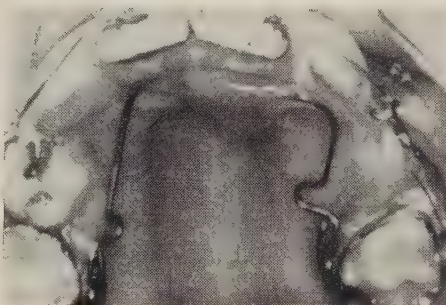


C

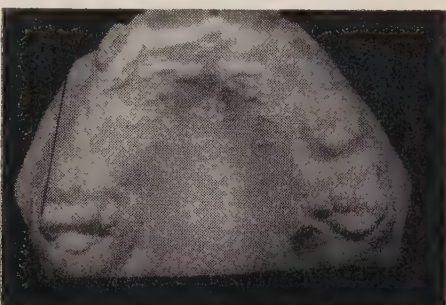
Fig 14 A, casts show postrior crossbite. B, a modified lingual arch was used to correct this malocclusion. C, corrected crossbite.



A



B



C

Fig 15 Rotated maxillary right first molar encroaches on the second bicuspid space. B, the molar was rotated by an activated lingual arch. C, treatment completed.

second bicuspid. The tooth was rotated back to its proper place by an activated lingual arch.

Summary

The lingual arch can help the general practitioner to diversify his services. This versatile appliance is useful for minor orthodontic procedures as well as space maintenance. A precise tool with rigid specifications, yet one that can be readily mastered with a minimum of effort, the lingual arch can open new horizons in dental practice and better patient care.

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Book Reviews

An Atlas of Pedodontics

D. B. Law, T. M. Lewis and J. M. Davis. Toronto, W. B. Saunders Company Limited, 1969. 332 p. Illus. \$23.80

The authors have achieved their expressed aim: to provide the practising dentist with a presentation of clinical paedodontics characterized by clarity and brevity. The photographs are exemplary and cover the material very well. Unfortunately, however, many pathological conditions characterized by colour changes were not reproduced in colour. The text is generally competent, especially the chapters on oral diagnosis and operative dentistry. The captions accompanying the pictures are brief and relevant.

Caries prevention is difficult to cover in this type of book. Likewise, there is excessive abbreviation in the section dealing with fluoride therapy. The assertion that stannous fluoride solutions must be freshly mixed is inaccurate in the light of present knowledge and may be an oversight. The pictorial description of toothbrushing is unnecessarily lengthy and simplified for a book intended for dentists. The same criticism applies to the chapter on surgery, although one must remember that the book is expected to enjoy a wide circulation among readers of widely diverging experience in paedodontics.

The rubber dam technique can only be described with the aid of pictures. This subject is handled beautifully in the *Atlas of Pedodontics*. The value of rubber dam in paedodontic practice cannot be overemphasized. I hope this book will encourage wider acceptance of the dam.

The authors present a wide variety of cases and appliances in the chapter on space maintenance and interceptive orthodontics; they also point out the deficiencies inherent in some of the appliances. The subject is fully illustrated.

Traumatized teeth are a constant problem in dental practice. The *Atlas* will assist dentists in the proper management of such accidental injuries to young patients. A variety of solutions to different traumatic injuries is presented, giving readers a good basis for the selection of a suitable approach to the problem at hand.

Anomalies of the dentition and the management of handicapped children are well illustrated, as is the section on oral diagnosis. The photographs will help all dentists who desire a ready reference for identification of various oral and systemic conditions and dental anomalies.

Although patient management is difficult to present pictorially, the brief narrative could have been enhanced by appropriate photographs.

Nevertheless, this book is a refreshing departure from standard textbooks, offering the busy dentist welcome relief from the laborious extraction of valuable information from voluminous manuscripts. The authors, who are well qualified to speak authoritatively about paedodontics, have made a valuable contribution to the dental literature.

W. J. Simpson

Plastic and Maxillofacial Trauma Symposium

N. G. Georgiade, ed. Vol 1. St. Louis, The C. V. Mosby Company, 1969. 221 p. Illus. \$27.50

This book documents the proceedings of a symposium of the Educational Foundation of Plastic and Reconstructive Surgeons held at Washington's Walter Reed General Hospital, November 30-December 2, 1967.

Though written primarily for surgeons engaged in maxillofacial surgery, the book also complements and enhances the scope of general, orthopaedic and otolaryngological surgery. The subject matter is organized into five concise, compact sections which review the disciplines of facial trauma. Each is skillfully structured and the "roundtable discussions" which conclude four of the five sections provide opportunity for intimate involvement of the reader. Though the principles governing the management of facial fractures have long been established, the text is replete with unique refinements supplied by the 27 contributors. The illustrations and drawings are excellent.

The introductory chapter which deals primarily with trauma resulting from high velocity missiles in the Viet Nam War is both interesting and unique. It describes the management of a form of injury rarely encountered by the civilian surgeon. In this kind of trauma, the

broad tissue damage inflicted by both primary and secondary missiles is infinitely more extensive than that which results from common civilian impact injuries.

T. B. Van de Mark

Oral Medicine

I. W. Scopp. St. Louis, The C. V. Mosby Company, 1969. 415 p. Illus. \$18.15

The title of this book is not descriptive of its content. This makes it imperative to summarize its components for the reader.

The book opens with a chapter on oral physiology, anatomy and histology. Discussions of oral pathology and oral examination and diagnosis follow. Twelve chapters are devoted to familiar pathological lesions found in and about the oral cavity. Each of these is usually described in terms of aetiology, clinical symptoms, histopathology and pathogenesis where known. Recommended treatment is outlined. Additional chapters follow on oral manifestations of infectious diseases, collagen diseases, blood dyscrasias and metabolic disorders. Diseases of the gastro-intestinal tract, cardiovascular system, respiratory system, bones, nerves and endocrine system have not been overlooked. Separate chapters are devoted to benign and malignant oral tumours. Later chapters, except one which deals with research methodology in oral disease, dwell on treatment through psychology, steroids and antibiotics. There is also a final chapter on drugs in oral medicine.

The author stresses the basic science approach to the clinical entity seen in the oral cavity. He also reduces the profusion of literature on various oral lesions to the smallest possible residue of useful, practical fact.

Such broad coverage in a relatively short book has necessitated condensation of the material. Nevertheless, where controversy exists or special procedures are indicated, the reader is referred elsewhere through the bibliography at the end of each chapter.

The book is well designed and easy to read. The black and white illustrations, though nicely related to the text, do not depict oral lesions as well as colour plates; but the latter are prohibitive and had to be eschewed.

Because it deals mainly with aetiology and treatment, there is some danger that the book may soon be outdated by newer discoveries. Frequent revision will therefore be necessary to keep it contemporary. As a condensed treatise on oral disease—its histology, anatomy, pathology; its diagnosis and treatment; its relationship to systemic disease—this is nevertheless an extremely useful book.

R. H. Bingham

Introduction to Medical Microbiology

C. W. Potter, J. F. Archer and G. C. Schild. Toronto, Butterworth & Co. (Canada) Ltd, 1968. 222 p. Illus. \$10.25

The title faithfully records what this book is: an introduction. It is a book that would sell more readily in Britain than in North America. Though it is concise and clear, it does not go far enough for our purpose. For example, in the discussion of immunology there is no mention of the different immunoglobulins, and under virology, the psittacosis agent is still called a virus.

G. Dempster

Analyse de livres

The Art and Science of Operative Dentistry

C. M. Sturdevant, R. E. Barton, J. C. Brauer et M. L. Harrison, New York et Toronto, Blakiston Division, McGraw-Hill Company, 1968. 529 p. Illustré. \$24.60

Depuis deux ou trois ans, la littérature consacrée à la dentisterie opératoire connaît un regain de vie surprenant. Ce livre est le fruit d'un travail d'équipe. Formée à même le personnel enseignant de la Faculté de chirurgie dentaire de l'Université de la Caroline du Nord, celle-ci est assistée de quelques professeurs de la Faculté de l'Université de l'Orégon, deux universités qui jouissent d'une excellente réputation. Les auteurs des différents chapitres ont d'ailleurs été triés sur le volet, tels les Brauer, Hunter, Shankle, Barton, Terkla,

Sturdevant et le regretté Harrison.

En feuilletant ce volume, on remarque d'abord le soin extraordinaire avec lequel les auteurs l'ont illustré. Il semble bien qu'ils aient tenu compte du dicton: "Une image vaut mille mots". Il ne manque pas de texte pour tout ça, mais les illustrations, de qualité supérieure, éliminent certaines explications écrites.

Les 18 chapitres démontrent des connaissances encyclopédiques. Le premier traite abondamment des besoins qui légitiment les objectifs et la philosophie de la profession dentaire; les deux suivants sont d'excellents résumés d'anatomie, de physiologie, d'histologie et de pathologie dentaires; le quatrième apporte un résumé substantiel des éléments nécessaires à l'établissement d'un bon diagnostic; le cinquième établit le langage de communication et les principes fondamentaux qui fourniront à l'opérateur le pourquoi de ses opérations; les trois suivants touchent à l'instrumentation, l'équipement, l'utilisation d'une assistante et, d'une façon supérieure, aux moyens de contrôler l'humidité.

Ces huit premiers chapitres constituent en quelque sorte une magistrale entrée en matière, tandis que les neuf suivants plongent le lecteur dans le vif de la dentisterie opératoire. Abondamment illustrés, ces textes vont des opérations les plus simples pour arriver, à travers l'usage de tous les matériaux usuels, aux opérations plus compliquées.

La conclusion du volume se fait avec le chapitre sur l'endodontie qui est plutôt complet mais qui peut laisser le lecteur quelque peu perplexe s'il n'a pas, au cours de la lecture de l'ouvrage, pigé ici et là les mises en garde contre certains abus opératoires. La mienne se veut être un hommage aux auteurs d'un volume qui, complet et bien construit, est un instrument précieux de travail tant pour l'étudiant et le professeur que pour le praticien en chirurgie dentaire.

G.-H. Deschênes

The Dentist, His Practice, and His Community

W. O. Young et D. F. Striffler. Ed 2. Philadelphie, Londres et Toronto, W. B. Saunders Company, 1969. 346 p. Illustré. \$13.00

Le fait que cinq années après la parution du volume *The Dentist, his Prac-*

tice, and his Community, les docteurs Young et Striffler ont senti la nécessité de publier une deuxième édition, marque bien l'évolution rapide que l'on connaît dans le domaine de la dentisterie en général et de la santé dentaire publique en particulier.

Cet ouvrage vise à couvrir tout le champ de l'hygiène dentaire publique comme en fait foi la simple énumération des chapitres:

1. Les patients, le public et la pratique dentaire

2. Qu'est-ce que la santé publique?

3. Le rôle du dentiste et l'hygiéniste dentaire en santé publique

4. L'épidémiologie et les principes de base de la santé dentaire publique et de la pratique dentaire

5. L'interprétation des données et l'évolution de la littérature scientifique

6. L'épidémiologie de la carie dentaire et des maladies périodontales

7. Les modes de prévention et de contrôle de la carie

8. Les modes de prévention et de contrôle des maladies périodontales et des autres maladies bucco-dentaires

9. La mise en oeuvre des moyens de contrôle et de prévention

10. Les besoins dentaires

11. Le recours aux traitements dentaires

12. Les régimes publics de soins dentaires

13. Les effectifs dentaires

14. L'éducation dentaire

15. Le rôle du dentiste et de l'hygiéniste dans le maintien de la santé communautaire.

Il va de soi que chaque sujet abordé n'est pas traité à fond. Le dentiste spécialisé dans le domaine de la santé dentaire publique n'y apprendra rien de nouveau; ce livre reste cependant un instrument de travail qui doit figurer à sa bibliothèque.

"*The Dentist, his Practice, and his Community*" est à recommander aux étudiants en chirurgie dentaire et en hygiène dentaire. Il est structuré de façon à donner une vue d'ensemble de la santé dentaire publique. De plus il fait état, à bon droit, de l'aspect social de la dentisterie ainsi que de ce courant relativement nouveau qu'est l'orientation de la pratique dentaire vers la prévention, concepts auxquels les futurs dentistes doivent être de plus en plus sensibilisés. Quant aux omnipraticiens et aux dentistes spécialisés dans d'autres disciplines que l'hygiène dentaire publique, ils ne trouveront guère d'intérêt à la lecture de ce manuel.

Paul Simard

Ontario's reform-hungry Committee on the Healing Arts

Commissions of inquiry usually address their reports to governments. But Ontario's Committee on the Healing Arts, which tabled its report on April 28, has really more to say to the health professions than to the Ontario government. For this reason alone, its analysis of the practice of dentistry deserves close attention from every dentist.

The committee probed the structure and efficiency of the province's health services and tested the educational and regulatory arrangements governing dentists and other health workers. Its 354 recommendations — 42 of them on dentistry — indicate that, to the committee at least, the health industry is far from robust.

The report is critical of the present methods of regulating the practice of dentistry and medicine. But it does not blame the professions for this as much as the framework in which they are forced to operate.

If this sounds paradoxical, it may help to cite two examples from a study of dentistry conducted for the committee by Professor R. K. House.¹ The first contends that the Royal College of Dental Surgeons of Ontario is still in the position of acting as a spokesman for the public and the profession. But since no body can act effectively for both, one party — the public — is left without a spokesman. Secondly, there is the inconsistency of requiring self-financing of a statutory professional body which is charged with protecting the public interest. Professor House maintains it is asking too much that members of such a body impose high taxes on themselves to safeguard the public interest.

To remedy these and other deficiencies, the committee would sever all links between the college and the Ontario and Canadian Dental Associations. It also calls for government and lay representation on the board of the RCDS. Another proposal suggests that a health commissioner be appointed to "protect" the public interest. He would be a kind of ombudsman with broad powers of investigation into any complaints, arising from the manner of control and the provision of health care.

Elsewhere, the report charges that dental care is costly because the profession imposes high standards for admission to practice. This allegation is as erroneous as it is unfair. The committee is evidently unaware of the dentist-supported Canadian Fund for Dental

Education. The Fund helps to produce teachers to train more dentists; it also provides scholarships for dental hygienists and dental technicians. These are hardly the actions of a group that is oblivious to the public interest. The report also chooses to disregard the many qualified applicants who regularly exceed the number of available places in first year classes at both Ontario dental schools. Bricks and mortar, rather than admission standards, determine the schools' physical capacity, and it is the provincial government's decisions on the financing of university faculties that control the supply of health manpower.

There will also be plenty of arguments over the committee's views on fee-setting practices. It maintains these are based on unilateral judgement exercised by members of the professions and it finds insufficient protection for the public in this arrangement. It therefore urges the provincial government to participate in the establishment of fee schedules for all groups in the health services field who receive their income primarily from fee-for-service, regardless of whether the services are covered in health insurance schemes or not. Physicians, it adds, should not be allowed to charge more than the government-negotiated tariff.

Beyond that, the report is rather vague on the details of government involvement. It only goes so far as to propose a fee negotiations advisory committee to "advise the Minister of Health in his financial dealings with the fee-charging professions."

These proposals raise some delicate questions. Does not external participation make the provincial government a de facto arbiter of the dentist's income? And is the present system really as bad as the committee suggests? Surely we would have risked a change in legislation long ago had there been a real departure between fees and the general economic trend.

The Committee on the Healing Arts has rendered a very useful service. But its report also contains some unsound advice, and those who follow it unquestioningly may pay for their blindness in the long run. So, of course, in that case will the rest of us.

1 House, R. K. Dentistry in Ontario. A study for the Committee on the Healing Arts. Toronto, Queens Printer (Ontario), 1970.

Le fisc, l'argent et vous

Nous avons déjà discuté des recommandations de l'Association Dentaire Canadienne sur les propositions de réforme fiscale du gouvernement fédéral concernant la comptabilité de caisse et la comptabilité d'exercice.

Nous voulons cette fois faire le résumé de certaines autres directives de l'ADC au gouvernement touchant des domaines variés de la fiscalité.

L'ADC a recommandé que les frais de scolarité de cours universitaires, post-universitaires et d'éducation permanente reconnus par un organisme de licence provincial devraient être déductibles, que le cours ait été suivi au Canada ou en dehors; que le coût des livres et fournitures dentaires utilisés pour des cours universitaires, post-universitaires et d'éducation permanente devraient être déductibles et, si la déduction n'est pas utilisée, elle devrait pouvoir être reportée et soustraite du revenu futur.

Les frais de voyage et de logement pour assister à ces cours devraient être déductibles et, si la déduction n'est pas utilisée, le contribuable devrait être autorisé à la reporter pour la soustraire du revenu ultérieur. Les frais encourus par un dentiste pour appartenir à un cercle d'études agréé par un organisme de licence dentaire ou une université devraient être déductibles. La déduction actuelle des frais de congrès devrait être conservée pourvu que les frais soient raisonnables eu égard aux circonstances. Un dentiste devrait être autorisé à reporter ses frais d'études pour les déduire de son revenu futur.

Frais médicaux — La limite restrictive de 3 p.c. pour les frais médicaux devrait être abaissée afin de faciliter aux contribuables de tous les niveaux de revenus la déduction des frais de santé dentaires et autres.

L'impôt au Canada et aux Etats-Unis — Il faudrait procéder à un ré-examen complet des fardeaux fis-

caux assignés aux contribuables à revenus intermédiaires aux Etats-Unis et au Canada afin d'éviter le départ de dentistes qualifiés vers les Etats-Unis pour des raisons d'impôt.

Gains de capital — Un gain de capital provenant de la vente d'une résidence principale ne devrait pas être imposé. Autrement, il devrait y avoir un roulement complet si une nouvelle résidence est acquise dans un délai raisonnable après la vente. Les dentistes qui déménagent temporairement à l'extérieur du Canada devraient pouvoir choisir d'être toujours considérés comme résidant au Canada et bénéficier d'un roulement complet. Un dentiste qui déménage pour installer son cabinet dans une autre région ou pour étudier devrait bénéficier d'une exemption de roulement complète.

Retraite — Régimes de pension et régimes d'épargne-retraite: Il faudrait examiner la possibilité de relever les limites actuellement appliquées aux cotisations des régimes de pension. La cotisation maximale permise à une personne travaillant à son compte devrait être égale à la cotisation maximale permise versée par un employé et son employeur.

Les corporations et leurs actionnaires — Il ne devrait pas y avoir de différence d'imposition du revenu provenant de placements selon qu'il s'agit de compagnies fermées ou de compagnies ouvertes.

Dons et legs — Il faudrait appliquer soit l'impôt sur les successions soit l'impôt de revenu sur les gains de capital et non les deux.

Revenus de placements des clubs et autres organismes sans but lucratif — Le revenu de placements des associations telles que l'Association Dentaire Canadienne ne devrait pas être soumis à l'impôt des corporations.

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

On May 14 at 11:00 am the dental profession had an appointment with the Commons Committee on Finance, Trade and Economic Affairs to discuss the white paper on tax reform.

Little did our delegation know that other groups also had appointments for the same time. These included a group of consulting engineers, representatives of a real estate appraisal board, the Canadian Medical Association and the Royal College of Physicians and Surgeons of Canada.

Making up our delegation was President-elect Bill Spence; Doctor Harold Beach, past president of the Ontario Dental Association; Doctor E. J. Fox, a member of CDA's committee on taxation; Mr. Martin O'Brien, solicitor, and myself.

Our turn to be heard finally came at 8:00 pm.

This was due to the Commons committee taking time out for lunch, a longer than usual question period in the House—which committee members felt obliged to attend, an interruption by Consumer and Corporate Affairs Minister Ron Basford lasting more than an hour, and the supper break.

We were lucky; the Canadian Medical Association and the Royal College of Physicians and Surgeons were still waiting when our turn came. So, Commons committee chairman Gaston Clermont decided that all three delegations should be heard at the same time because the dental and medical briefs had many points in common.

Although we were a bit reluctant when this proposal was made, the able chairman handled the meeting so that no favouritism was shown to any one group.

Preliminary statements were eliminated and committee members began their questioning immediately.

Each group was given an opportunity to answer every question posed by the committee, either by the group's spokesman or other "witnesses." There was no attempt to prevent any witness from having his say relative to the questions asked.

We had expected a much more difficult time with the Commons committee than we had with a similar Senate group on April 15. Newspaper and other reports of earlier Commons committee hearings had prepared us for an extensive cross examination and stiff resistance to any proposals not included in the white paper.

The committee members did ask a lot of questions, especially about the accrual accounting system and continuing educational programs for professionals. However, they seemed willing to consider the points we raised.

We were before the committee 2¼ hours. It would have been longer, but some members had to catch transportation back to Toronto at 11:00 pm.

We were somewhat disappointed that all the points included in our submission were not covered in the discussions. However, it appeared the same fate fell to other groups, at whose hearings we sat in.

The following week Doctor Spence, Doctor Beach and I were back in Ottawa for a meeting with Health and Welfare Minister John Munro. We were attempting to gain the minister's support for the dental profession's tax recommendations. Doctor Ralph Connor, chief of Health and Welfare's dental division joined the group for the discussion period.

The minister made notes of our proposals and promised further consideration. He said he would notify us if any additional clarification was necessary.

We have now completed all the steps that were initially planned to have the dental profession's views on the white paper adequately represented to government. These included preparing a brief, distributing it to selected officials, including Prime Minister Trudeau and Finance Minister Benson, as well as to each of CDA's corporate members. We then supported the brief before the Commons and Senate committees and John Munro.

Provincial meetings

President Hector MacLean and I made hurried but pleasant visits to the Alberta and British Columbia dental conventions May 21 and 22 in Red Deer and Vancouver. Both meetings were welcome opportunities for the president and I to discuss dental matters of mutual interest with western dentists.

Unfortunately, the dates of the Quebec Dental Surgeons' Association's annual meeting conflicted with those of Alberta and BC. President MacLean could only attend those meetings to which he was first committed. Doctor Frank Compton, Journal editor, therefore attended the Quebec conference as CDA's official representative.

State Secretaries Management Conference

Each year the state secretaries and managing directors hold a three day conference at the ADA headquarters in Chicago. For the past several years, Canada's provincial and national secretaries have been invited to hear the widely varied topics which focus on administration.

The Canadians who have attended say they found the US conferences most instructive and are grateful to our American confreres for inviting them.

This year's meeting was held the first three days in June and was reported highly successful. Attending with me from Canada were Ken Croft, managing director, College of Dental Surgeons of British Columbia; Doctor George Decker, registrar-secretary, Alberta Dental Association; and Doctor Ken Pownall, secretary of the Ontario Dental Association.

Tax reform

The white paper on tax reform is a good example of participatory democracy. Its content, in general, is good for the Canadian economy. There are certain inequities as far as dentistry is concerned. These have been pointed out in a very acceptable manner by the editorial in the March Journal and the CDA's brief on the subject. Collective action by a united and, hopefully, enlightened profession should make a reasonable impression on the Government of Canada.

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Instruments for root canal enlargement

The article on "Pre-Curved Files and Incremental Instrumentation for Root Canal Enlargement" in the April issue of the Journal was well written, practical, and adequately illustrated. Doctors Weine, Healey, Gerstein and Evanson wanted to describe two methods of avoiding ledge formation or perforation of root canal walls and they went about it in a "business-like" manner. This is the type of paper that the general practitioner can digest and easily put to good use in his office. There is not much that can be added to the article; the authors are to be congratulated.

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Harold Keith Box

Following an article on Doctor Harold Keith Box which appeared in the December issue of *Oral Health*, a publishing house has evinced some interest in a full-length biography. To do justice to such a study requires amassing all available information about Doctor Box and his times.

Most of his scientific achievements are on the record. What I particularly

seek is information about the doctor's early life, his undergraduate days, anecdotes, personal correspondence, and leads to persons who have useful information.

My sincere thanks to any who can be helpful in putting on the record the meaningful achievements of this outstanding Canadian dental scientist.

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Professional association and union dues

There is no disagreement with the need for adequate financing of provincial and national dental organizations. However, if the members of these organizations accept the comparison presented in your editorial ("Solvency and Solidarity") in the April Journal, then we must compare all the other functions which, presumably, are common to both. Therefore, in order to comment, the functions of "unions" must be defined so as to permit comparison. It is obvious that a "union" communicates with its members, defines their goals, identifies their "enemies," assumes responsibility for their welfare, and constantly reminds its members of its need for their involvement and their need for its leadership. United Autoworkers headquarters in Detroit does not use the letterhead "Solidarity House" without reason.

Moreover, the above services and functions are clearly and repeatedly stated. They are not lost in minute books or transactions, nor are they treated as being understood; they are presented in such a fashion that it is relatively easy for the average union member to identify and support *his* union.

Therefore, the following questions must be asked: Have our professional organizations clearly defined their objectives? Have they communicated these to the general membership? Have they identified any "enemies?" Have our organizations assumed responsibility for *our* welfare, or is the dual responsibility to the public and the profession leading them on a course which eventually could be detrimental to both?

Having gone through the exercise of making a comparison with the least offensive functions of "unions" I would now like to comment as to why I find your editorial based on an unacceptable premise. Union philosophy is based on the word "more:" more money, more fringe benefits, more time off, more control over management decisions without the accompanying responsibility. If a professional organization adopts this philosophy, it no longer qualifies to represent a true profession. Therefore,

I regret the comparison which has been made. Surely the need for adequate financial support can be justified without resorting to odious comparisons. In the words of today "Tell it like it is."

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Employment expectancy of dental hygienists

The article by Mrs. MacLean (March Journal) was not only timely but will also serve to document the present employment expectancy of Alberta dental hygiene graduates for a later comparison study.

The recommendation that six dental hygienists be graduated for each dentist is certainly not out of line. In a dental curriculum conference at the University of Manitoba several years ago the matter of the number of auxiliaries that a third and fourth year student could use in a simulated group practice within the dental school was discussed. The conclusion reached was that the curriculum of most schools of dental hygiene dictated that at least four hygienists per dental student should be in training if the group practice model is to function properly.

Thus the increased number of dental hygiene trainees can also serve in a secondary way to improve the education of both the dentist and the hygienist provided the programs are well integrated and serve the basic goal of improved services to the public.

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Bilingualism

I sincerely thank Doctor Ruprecht for an entertaining but rather restricted view of taxes in Canada: why we pay them and what for—French (May Journal). This exercise in "common sense," I am sure, will be a guide for us all when filling in our tax forms next year.

I would now like to make a suggestion: that henceforth, the Journal restrict itself to printing, in this section, letters pertaining to dentistry as such. There is ample room in other reviews, journals and newspapers for letters pertaining to personal feelings and convictions about politics.

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"Dialogue" this month brings you informed comment on two burning issues. Doctor D. M. Bonang, Halifax, expresses some frank opinions about dental auxiliaries and their role in the delivery of dental care, while Doctor W. C. Deacon, Ottawa, makes an assessment of the Ontario Healing Arts Committee report. "Dialogue" deals with issues affecting the Canadian Dental Association and its corporate members. Contributions are invited and should not exceed 500 words. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association.

Trained auxiliaries can expand delivery of dental care

The demand and need for dental health services are two distinctly different entities. Society today, becoming more aware and concerned about the value of dental health, is placing an increased demand on the dental profession, a demand which cannot be effectively met with present professional manpower.

As the public demand for treatment continues to surpass the growth rate of the dental profession, the problem becomes more acute. The profession must therefore consider the efficient use of auxiliary personnel by delegating duties that do not require professional skills to these auxiliaries and maintaining at the same time effective supervision, responsibility and control.

This, of course, points to the dental health team concept. Led by the dentist, this team includes the dental technician, dental hygienist, chairside assistant and office receptionist, all working in a cooperative manner, rendering dental treatment to the public.

We all know that many dental treatment procedures do not require the direct knowledge and skill of the dentist. I firmly believe that many of these duties could be rendered by properly trained auxiliary personnel under the supervision of the dentist.

One point to be kept in mind when considering the utilization of auxiliaries is the "dentist-patient relationship." Any contract, whether written, verbal or implied, is directly between the patient and the dentist. The patient's welfare therefore rests solely with the dentist. This applies to services he renders personally as well as those of his auxiliary personnel.

This being the case, I strongly support the principle that provincial licensing authorities should make every effort to create a legal environment whereby auxiliaries can be effectively utilized in the preventive and clinical fields of dentistry.

I further believe that, to maintain a harmonious, efficient working relationship in the dental team, all professional and auxiliary personnel should be covered by one dental legislative act. Further, there should be one governing board with representation from all auxiliary groups. If we are to act as a unified team,

we need close liaison between the dentist and the auxiliary personnel who serve under his supervision and control.

Since dentists cannot meet the increasing demand for the delivery of dental health care services, the profession must utilize the talents of trained auxiliaries not only in the field of preventive dentistry but also in those clinical applications which do not require the expanded knowledge and skill of the dentist.

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Ontario's "Healing Arts Committee" report

Change is inevitable and inexorable. That changes in the health professions are more frequently being suggested in reports such as that of the Ontario Committee on the Healing Arts should not surprise us. As our society further defines its demands for a purer environment, guaranteed incomes and the right for all to a healthy mind and body, we in the health disciplines must be willing to break traditional habits for the welfare of that society. Against this background, though, we must attempt to protect our independence and fair treatment.

The report of the Committee on the Healing Arts, in the main, suggests worthy, well-considered proposals. Recommendations for hospital dental facilities, the training of more technicians and auxiliaries, more preventive education, licensing of dental laboratories, itemized professional statements, public health measures, and lay representation on licensing and disciplinary boards are in consonance with the objectives of our profession.

Other recommendations appear to suggest change for its own sake, or change to effect conformity. In this category falls the first proposal to remove membership or financial support of the Ontario and Cana-

dian Dental Associations as a condition of licensure. The point is argued on the cornerstone of the "voluntary nature" of these organizations. The trade union movement has laboured successfully throughout the years for the principles of "closed shops" and compulsory "check-off." The unions have successfully contracted that employers shall employ only union members and collect union dues for the union. Labour has justified these concepts with the argument that all workers benefit from the unions' activities and all should share the cost of these endeavours. If this rationale is acceptable to the majority of working people, why should it be objectionable in government eyes when applied to the professional? Compulsory support of the Ontario and Canadian Dental Associations by way of grants derived from licensing fees seems a justifiable procedure with ample precedent.

Prior negotiation of the ODA fee schedule with the minister of health is an unnecessary stipulation until the government becomes a contractual party of some significance. At that point it would be imperative that baseline data on the costs of education, establishing a practice, earning an income and providing for retirement, in dentistry and other professions, serve as a foundation for discussion. The ODA and the Ontario government are currently preparing a study to gather this information.

The recommendations regarding education and licensure do not appear as praiseworthy as does the course the profession has already embarked upon. The National Dental Examining Board already operates as a "federation of licensing bodies" under a federal charter. It has the potential or actually fulfils several of the report's objectives. In this category are the development of national standards for dentists across Canada, the evaluation of foreign dentists, and the elimination of two sets of examinations (the university's and those of the NDEB). The NDEB proposes to grant its certificate to approved schools without examination provided the accreditation process is satisfactory to it. This procedure allows wide latitude in curriculum content and emphasis, permitting each school to develop its own characteristics without imposing the circumscription of an examination upon its graduates.

The CDA Council on Education now performs the accreditation procedures. Should the Board of Governors at the July 1970 annual meeting grant the NDEB a significant role in accreditation, the goal of Canada-wide licensure for all graduates will be attained.

It then falls to the NDEB—requiring, of course, more financial support from its member licensing bodies—to evaluate foreign dentists. This will remove responsibility and political pressure from individual licensing boards.

The report's proposal to transfer accreditation to the Association of Canadian Faculties of Dentistry amounts to self-accreditation and destroys this grand design. It would create a dichotomy of interest forever suspect. Now that the report of the Committee on the Healing Arts has been tabled, the need to support the NDEB in wise fashion is imperative—this summer.

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Income Tax

Professional incorporation in British Columbia

British Columbia's Professional Corporations Act became law on April 3, 1970. The act allows a professional man or a group of professionals to incorporate while still protecting the public by maintaining the personal liability of the members of the corporation. R. J. Orr of the firm of Bull, Housser and Tupper, solicitors for the BC College of Dental Surgeons, weighs the advantages and disadvantages of incorporation in the following article.

Normally, the reasons why a businessman incorporates are that a corporation is a separate entity with limited liability. The person owning the majority of the shares by and large controls and rules the company. A shareholder can contract with the company or sue it or be sued by it. Unlike a partnership, a shareholder cannot bind the company. Death of a shareholder does not terminate a corporation as it does a partnership. Moreover, shares can be easily transferred, and incorporation offers certain tax advantages.

The Professional Corporations Act takes away the limited liability of a shareholder, which is the principal advantage of incorporation. A dentist must therefore look carefully at the other reasons for incorporation to see whether they offer sufficient advantage to offset the expense and the increased complexity of operating a profession as a corporation.

The potential advantages should be assessed in the light of two things: (a) the white paper on tax reform which, if implemented in its present form, would eliminate the tax advantages of a small corporation over proprietorship; and (b) the possibility of the federal government deeming a corporation incorporated under BC's Professional Corporations Act to be a proprietorship or partnership for the purposes of the Income Tax Act.

Although the white paper may take from a corporation the major advantages of the 21 per cent tax rate

on earnings under \$35,000, as finally implemented it may offer some other concessions applicable to smaller corporations.

The second eventuality, cited above, seems reasonably remote because legislation dealing with incorporation is within the competence of the province and in the United States similar professional corporations have been allowed to exist for some time with attendant tax advantages.

Tax disadvantages

There are two situations under the present Income Tax Act where incorporation poses a potential tax disadvantage:

1. Where a dentist or a group of dentists are just starting up and anticipate that the operation will suffer losses in the first few years and the shareholders have other sources of income. In this case, if a corporation is formed it becomes a separate personality and the losses will not be available for loss carry-back and could only be used in one year of carry-forward. If a partnership or sole proprietorship is utilized the losses can be used to offset income from other sources and can also be carried back five years.

2. Where substantial capital gains are expected, proprietorship or partnership may be more advantageous. The capital gain received by a corporation is transferred into taxable income when it passes through the hands of the corporation and is distributed in the form of dividends. Under certain circumstances capital gains of a corporation can be distributed tax-free, that is, where a corporation has no undistributed income. However, this is not usually the case and it entails extra expense whereas presently a capital gain for an individual is tax-free.

Tax advantages

The potential advantages of incorporation are as follows:

1. The tax rate on the first \$35,000 of earnings of a corporation is at 21 per cent. This allows a corporation to accumulate a tax-paid surplus at a lower rate than the marginal rates applicable to most dentists. For example, with a taxable income of \$8,000 a year, personal tax is \$1,570 plus 30 per cent on anything over that up to \$10,000. The marginal rate then is 30 per cent as compared to 21 per cent for the corporation on the first \$35,000 of profit. The marginal rate goes up to 35 per cent at \$10,000 a year taxable income and 40 per cent at \$12,000, 45 per cent at \$15,000 and 50 per cent at \$25,000 a year taxable income.

This can be a particular advantage when it is anticipated that working capital will be required. To illustrate, suppose a dentist practising alone earns \$20,000 and needs \$7,830, tax-paid, to live on. If the corporate form is adopted, \$10,000 will be paid out in salary to the prime shareholder, resulting in \$7,830 net after tax. The other \$10,000 will be taxable to the corporation at 21 per cent. This will net the corporation \$7,900 in working capital. If a sole proprietorship were used the entire \$20,000 would be taxable as income to the individual dentist. This would result in a personal tax of \$6,325 leaving \$13,675. After deducting the

\$7,830 he needs to live on, the dentist could only plough back \$5,845 into working capital. Thus the corporate form results in an increase of \$2,055 in working capital, as well as being more convenient than reinvesting. (The figures cited here are for illustrative purposes only and may not be completely accurate.)

2. If the entire income of the corporation is required it can be of considerable tax advantage to pay out part as salary, the balance as dividends. Twenty per cent of the dividend income received from a Canadian company may be deducted from the tax of an individual. To illustrate, suppose the taxable income of a dentist is \$20,000. Ignoring personal exemptions and calling the full \$20,000 taxable income, the tax payable would be \$6,320. If the dentist took a salary of \$8,000 he would pay 21 per cent corporate tax on the \$12,000 remaining or \$2,520 in corporate tax. This would leave \$9,480 to distribute as dividends to the dentist in question, giving him a total income of \$17,480, again ignoring personal exemptions. The personal tax payable on this \$17,480 after giving effect to the dividend credit would be \$3,290. Adding this to the corporate tax paid, the total tax under the corporate set-up would be \$5,810, or a saving of \$510 by operating as a corporation.

3. Capital gains on the sale of shares at the time a dentist decides to cease practice. However, the sale of goodwill is also tax-free; therefore this is not any comparative advantage.

4. Income averaging. This is only of value when there is wide yearly fluctuation of income and is therefore not too applicable to a professional practice.

5. Deferring tax liability. Probably the simplest method of doing this is by the use of a registered pension plan. Corporate contributions up to \$1,500 annually are tax-deductible as an expense of the corporation. Contributions of the employee to a registered plan are also deductible from his personal income up to \$1,500. Thus the tax on up to \$3,000 of income may be deferred. When this deferred income is paid to the taxpayer, of course, it becomes taxable income — though probably at a time when his income is at a lower level.

If in early years of practice it is not financially feasible to make firm contributions, there are special provisions for lump sum contributions in the later years, fully deductible as an expense to the corporation.

It should be noted that under the Income Tax Act a director is an employee. This allows a retired member of a dental practice to continue the pension plan with contributions by the corporation, these contributions being fully deductible as an expense of the corporation and thus possibly reducing the cost of a buy-out by continuing shareholders.

It is therefore obvious that the tax advantages are much greater the smaller the group incorporating because the value of the 21 per cent tax rate on the first \$35,000 of corporate income must be split between the various shareholders.

Consult your lawyer

If a dentist considers incorporating there are a number of other matters that he should keep in mind:

1. If several practising dentists are incorporating they probably should have a buy-sell agreement establishing the value of the shares if one of the shareholders decides to retire or dies. The agreement should be revised annually if there is any significant difference in the value of the shares. If this is neglected there are provisions within the act for arbitration of the value of the shares.

2. The right date for incorporation should be chosen for the tax period of a corporation cannot be changed without the consent of the minister.

3. When an old, established partnership is being incorporated, it seems advisable to put in a minimum capital through shares and a maximum through shareholders' loans or debentures. On the latter any interest is an expense of the corporation. The shareholders' loans or debentures can be repaid without attracting tax.

4. If an asset is being transferred to the corporation upon which depreciation has been paid, it can only be put into the corporation at its depreciated value; otherwise there will be a recapture which is taxable in the hands of the person who is selling the asset to the corporation. If the asset is nearly fully depreciated it may be wise to lease the asset to the new corporation.

5. Shares in a corporation under the Professional Corporations Act, unlike in normal corporations, may be redeemed by the corporation. This should be kept in mind for the future for shares may be redeemed at a premium by the corporation paying a relatively low tax rate and the premium coming to the shareholder on a tax-free basis.

6. Loans to shareholders can be made by a corporation for limited purposes, such as buying a home or a car or even shares in the corporation.

7. A dentist who buys a practice by purchasing the shares of the corporation is buying all the liabilities of that corporation, including potential claims for negligence or malpractice.

A dentist or a group of dentists who wish to incorporate should consult their lawyer and their accountant. In British Columbia the cost of incorporating, including about \$100 for registration, is about \$450. The annual cost of preparing minutes of shareholders' meetings, directors' meetings, filing annual reports and other work required would approximate \$50.

Other tips

There are also some other things the dentist should know about BC's Professional Corporations Act.

The name of the corporation must be approved by the College of Dental Surgeons as well as the Registrar of Companies.

It should not include the words "Limited" or "Ltd."

All the shareholders, directors and officers of the corporation must be entitled to practise dentistry in the province.

The Registrar of Companies requires a certificate from the college certifying that each of the subscribers is entitled to practise dentistry and approving the name of the proposed corporation.

Before the corporation can be registered the college must file with the Registrar of Companies a copy of a resolution or by-law authorizing its members to incorporate under the act.

There can be a one-member-one-director corporation under the act.

Despite the restriction on shareholders requiring them to be practising members of the profession, the personal representative of a deceased member of a professional corporation is entitled to receive and deal with the shares of a deceased member.

The annual report of a professional corporation must be accompanied by a certificate signed by the registrar of the college certifying that all its members, directors and officers are legally entitled to practise dentistry.

A duplicate original copy of each annual report and the certificate must be filed with the College of Dental Surgeons as well as with the Registrar of Companies.

The corporation may invest its funds in real estate or mortgages, bonds, stocks or any other investment for the purpose of carrying on the business of the corporation. However, it may not be a holding company for the personal investments of the dentist or dentists concerned.

A corporation is precluded from issuing securities as defined in the Securities Act to the public. However, this does not preclude a dentist selling debentures to his personal friends. It would probably be unethical to sell debentures to a patient. The Registrar of Companies intimates that this particular subject will be covered in future regulations to be issued under the act.

Conclusion

To sum up, the act under normal conditions offers some opportunity to avoid unnecessary taxes. The opportunity is greatest for the single practitioner or the two-or-three-dentist partnership.

Unless the foregoing synopsis reveals some special advantage to some individual or group, there seems no great urgency to rush into incorporation until such time as the provisions of the white paper are implemented. The white paper proposals may not become effective before 1972.

Demand for hygienists grows in Manitoba

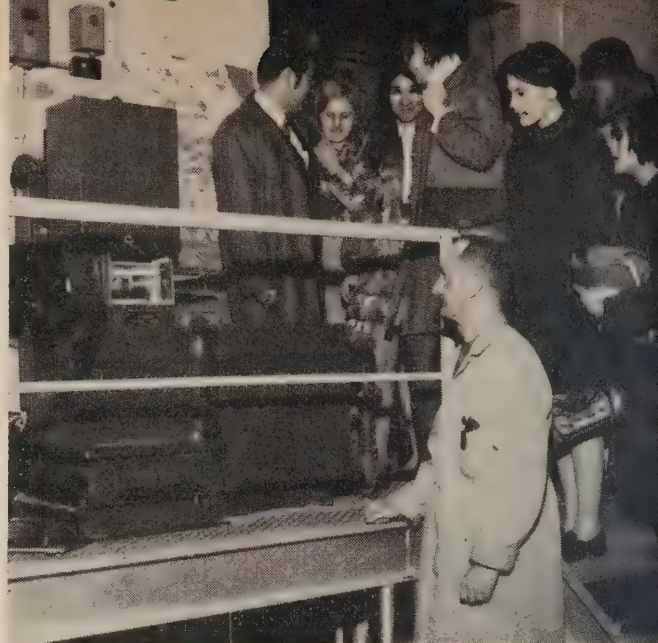


To spur interest in the recruitment and employment of dental hygienists, staff and members of the University of Manitoba's graduating class in dental hygiene and officials of the Manitoba health department and the Western Manitoba Dental Association put on a special display of the role of the dental hygienist at the April 15 meeting of the WMDA in Brandon.

J. T. Mills, Brandon, Man, listens attentively while dental hygienists Janet Johnson and Barbara Burrows demonstrate the long cone radiographic technique.

Below left: Brandon dentist G. M. Nawazek inspects health education materials. Below right: dental hygienists Evelyn Bachinsky, Gail Zackarisson and Jane Chan demonstrate practical uses for dental health teaching aids.





Members of the University of Manitoba's graduating class in dental hygiene visited the Brandon water treatment plant where superintendent Russ Trent demonstrated the simple yet efficient machine used to fluoridate the city's water supply.

Emphasizing the growing demand for dental hygienists, the young women participated in demonstrations designed to illustrate the varied services a trained hygienist is capable of providing. C. H. McCormick, Manitoba's director of dental services, Margery Forgay, director, School of Dental Hygiene, and D. K. Hurst, WMDA president, cooperated in the project.

Graduates demonstrate role

The three-pronged program stressed the value of hygienists' assistance in private practice, introduced career-minded young women to the role of the hygienist, and demonstrated to the young graduates that service in a smaller centre can be attractive and rewarding.

Following a tour of the Brandon hospital facilities and a visit to the local water treatment plant, where special attention is given the addition of fluorides to the water supply, two groups of hygienists conducted displays of their work.

One group, under the supervision of dentists in their own offices, treated actual patients and showed techniques in scaling and polishing. The second group, divided into seven teams, set up creative displays to demonstrate to the public the advantages of dental hygiene as a career for a young woman.

Scarce

Dental hygienists are scarce and so far the demand has far exceeded the supply. The 150 hygienists now graduating each year across Canada are immediately absorbed in positions in public health, institutional work, group practice and private practice. Projected

figures indicate that 10 years from now as many as 2,000 young women may enter the dental hygiene field annually.

About 60 per cent of Manitoba's yearly graduates remain in the province to work, although openings are available throughout the continent, and now also in some centres in Europe. A recent graduate of the two year diploma course is employed at Winnipeg Children's hospital, and another, whose second year of study was financed by a public health bursary, is an enthusiastic member of the staff of the Neepawa Health Unit. She is predominantly engaged in dental health education, lecturing education students, mothers and prenatal classes, but she works as well under the supervision of dentists in rural clinics.

Another dental hygienist working in public health in the Brandon-Virden Health Unit area graduated in 1958 in Ontario when hygienists were in very short supply. She finds public interest in the course increasing rapidly as more people become aware of the hygienist's role.

Opportunities unlimited

One of the rewarding aspects of dental public health work is closer contact with people at all levels of society, the hygienists point out. They also cite as an incentive, the opportunity of practising a profession for which there is a constant demand wherever they may choose to go. This makes it possible for those who prefer the small rural centre to find work there, while those who wish to settle in an urban area will likewise find plenty of scope.

Currently, the Manitoba government employs six dental hygienists. One is based in the Winnipeg central office of the Division of Dental Services, one is attached to the Mount Carmel Clinic and the remainder work in rural health units.

Dentistry in the news

The Association

1970 Transactions will be available only "on request"

The 1970 *Transactions* of the Board of Governors meeting at Winnipeg are now in preparation but will not be sent automatically to every member of the Association.

Readers who wish to receive a copy of the *Transactions* should write at once to the Executive Director, Canadian Dental Association, 234 St. George St, Toronto 180, Ont.

Back issues of Journal requested

The Canadian Dental Association seeks back issues of the Journal. January and April 1970 issues are particularly in demand. Intact copies may be sent collect to the Editorial Department, Canadian Dental Association, 234 St. George St, Toronto 180, Ont.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on May 31, 1970:

Government Bond Fund \$14.098 (\$13.852 May 31, 1969; \$13.574 May 31, 1965);

Corporate Bond Fund \$15.374 (\$15.056 May 31, 1969; \$14.362 May 31, 1965);

Common Stock Fund \$18.688 (\$27.707 May 31, 1969; \$20.015 May 31, 1965).

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA Retirement Savings Plan, offers three separate investment media: a government bond fund, a corporate bond fund and a common stock fund. Contributions may be allocated wholly or partly to the funds of the contributor's choice. Transfers between funds are allowed without penalty.

The government bond fund, confined to guaranteed government bonds and other guaranteed fixed income securities, offers excellent income with high security. The corporate bond fund, confined to bonds, debentures, preferred shares and other fixed income securities, offers maximum income. The common stock fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

No charges or commissions are payable on joining or withdrawing from the plan.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

Science Fair winners honoured by CDA

Barbara Tomaszewski, a 17 year old student who is in grade 13 at Ursuline College, Chatham, Ont, and Robert S. A. Hayward, 12, a grade 7 student from Ottewell Junior High School in Edmonton, have won the two Canadian Dental Association awards given at the ninth Canada-wide Science Fair held at McMaster University, Hamilton, May 12-16. This year's selections were made on behalf of the CDA by Ivan Hrabowsky of St. Catharines.



Robert Hayward, 12, (centre) of Edmonton and Barbara Tomaszewski, 17, of Chatham, Ont, are shown with their Canadian Dental Association awards given at the ninth Canada-wide Science Fair held at McMaster University, Hamilton, May 12-16. The two young winners were selected for the CDA by Doctor Ivan Hrabowsky of St. Catharines, Ont.

The Canadian Dental Association is one of the sponsors of the Youth Science Foundation which promotes extracurricular science activities and organizes the annual Canada-wide Science Fair.

Miss Tomaszewski's exhibit, titled "Smoking and Living Organisms," demonstrated brain and liver damage in newly hatched chicks after the fertilized eggs were exposed to smoke for periods ranging from half an hour to two and a half hours.

Mr. Hayward's exhibit showed the effects of vitamin and protein deprivation in gerbils.

International Items

Periodontal meeting in Montreal, Sept 16-19

Canadian and American periodontists will meet together when the Canadian and the American Academies of Periodontology hold their next annual meeting jointly in Montreal, September 16-19. Site of the meeting will be the

Hotel Bonaventure and Chateau Champlain.

The scientific program will feature an examination of "The Present Status of Stress Research" by Hans Selye of the Institute of Experimental Medicine and Surgery, University of Montreal.

Current concepts of occlusion, periodontal disease control, and experience with health plans will be topics for three half-day sessions.

Other features will include a research forum, presentations by graduate students and clinical lectures.

Attendance at the meeting is open to all members of the Canadian Dental Association upon payment of the registration fee. For further information, please write to the Secretary, American Academy of Periodontology, Room 924, 211 East Chicago Ave, Chicago, Illinois 60611, USA.

Turkish congress at Izmir, Sept 19-22

Canadian dentists have been invited to the 9th National Turkish Dental Congress at Izmir, Turkey, September 19-22.

The registration fee is \$25 (US) for dentists and \$15 (US) for accompanying visitors. Advance registration forms may be obtained from CDA Headquarters.

Canadian dentists who wish to present scientific essays or clinical lectures should send copies of their papers to the congress secretary before August 1 for translation and printing.

For further information, write to Yilmaz Manisali, Dishekimligi Fakültesi, Capa, Istanbul, Turkey.

First dental PR conference at FDI session

The first international conference on dental public relations will be held during the 1970 annual session of the Fédération Dentaire Internationale, September 26-October 1 in Bucharest, Rumania.

CDA President H. R. MacLean and Executive Director W. G. McIntosh will be two of the official Canadian delegates at the international meeting.

Dental Organizations

Ontario oral surgeons elect Doctor Chapnick

Paul Chapnick, Toronto, was recently elected president of the Ontario Society of Oral Surgeons. He succeeds R. E. Booker, Kitchener.

Elected as vice-president was Howard Phillips, Toronto. V. N. Drenfeld, Toronto, is secretary-treasurer.

The society, which meets seven times a year, culminates its annual program with a clinical pathological conference. An all-day program is also set for Friday, October 10 at the New Mount Sinai Hospital, Toronto. The meeting will be addressed by one of Britain's leading oral surgeons, Lester Kay.

Doctor Berman is president of Ottawa association

The new president of the Ottawa Dental Society is J. Berman. He succeeds G. G. Patenaude. Other officers are D. J. O'Connor, secretary, and H. J. Chartand, treasurer.

BC college has new officers

G. Allan Freeze, North Vancouver, is the new president of the College of Dental Surgeons of British Columbia. He succeeds G. F. Copithorne, also of North Vancouver.



R. E. Booker, Kitchener, left, immediate past president of the Ontario Society of Oral Surgeons, receives an appreciative citation from newly elected president Paul Chapnick, Toronto, at the OSOS final business session held in May.

Elected as vice-presidents are J. S. Craib, Vancouver, and M. J. T. Dohan, Victoria, who was re-elected. Also re-elected as treasurer is R. A. Mitchell of West Vancouver. K. L. Croft, Vancouver, is managing director.

Economics

Crucial bill defeated in Nova Scotia

Bill 54 which would have legalized dental mechanics was voted down on second reading in the Nova Scotia House of Assembly March 25. If passed, the bill would have authorized mechanics to deal directly with the public in the field of prosthodontics.

Spearheading efforts to defeat the bill was a committee of the Nova Scotia Dental Association under the direction of E. F. Dexter, Halifax. Opposition also came from the Nova Scotia Dental Technicians Association.

Quebec dentists request aid for poor

The Quebec Dental Surgeons' Association, May 21, urged provincial Health Minister Claude Castonguay to include "the whole range of dental treatment for public welfare recipients" in the new provincial health insurance scheme, with dentists paid on a fee-for-service basis.

In a letter to the new minister, QDSA President Hubert LaBelle asked for a meeting to discuss the inclusion of both dental care and oral surgery in the medical plan. But if medicare will only cover oral surgery services, payment should be authorized regardless of whether patients are treated in a hospital by an oral surgeon or in a dentist's office.

"Because these services are performed by dentists and oral surgeons," said Doctor LaBelle, "it is imperative that our association be called to the negotiating table to establish all the terms."

Doctor LaBelle referred to the "illogicality" of the present Quebec Medical Assistance Act which covers medical expenses but not dental, drug or eye treatment.

He described a recent "special aid" provision designed to supplement the Medical Assistance Act as a system "without structure, without well formulated arrangements, with ridiculous fee schedules established unilaterally and often left to the arbitrariness of bureaucrats."

The system has led to "shameless haggling" over certain health services, he complained.

Under the present set-up, a welfare recipient requiring dental care must

visit a dentist who draws up a list of necessary treatments as well as his fees for the service. Both the treatments and fees are subject to approval by the provincial department of social welfare.

Quebec dentists seek practice establishment incentives

To ease a shortage of dentists in rural areas, the Quebec Dental Surgeons' Association, May 21, urged the provincial government to follow an Ontario plan which guarantees \$22,000 a year to dentists who agree to relocate in an underserved area. They are remunerated on a fee-for-service basis with the government making up any deficit.

Dental students in Ontario who agree to serve in a deprived area can get \$3,000 a year in grants during the last three years of dental school. They have to serve in the regions for the same number of years they receive the grants in school.

The QDSA also recommended an immediate start on training dental assistants in community colleges (CEGEP's). These assistants would "perform duties equivalent to a nurse" and would relieve the dentist of non-professional tasks.

The association estimates that 60 per cent of Quebec dentists practise in the Montreal area, providing service for only 40 per cent of the provincial population. Some rural areas, like Wolfe and Bellechasse Counties, do not have a single dentist.

PIC reports encouraging dental response to price restraint program

Ottawa's Prices and Incomes Commission says six provincial dental organizations have endorsed a recommendation of the CDA Executive Council that increases in provincial dental fee schedules be postponed or limited during 1970. They are Newfoundland, New Brunswick, Manitoba, Saskatchewan, Alberta and British Columbia.

In Prince Edward Island, Quebec and Ontario no official statement has been made. In PEI and Quebec, however, the commission does not anticipate an increase in fee schedules during 1970.

In Nova Scotia a new provincial fee schedule, drafted and authorized by the Nova Scotia Dental Association in the fall of 1969, was introduced as planned in April.

CLC executive urges more union health centres

A Canadian labour leader has called for the development of more union

sponsored community health care centres in Canada.

Donald MacDonald, president of the 1,650,000 member Canadian Labour Congress, charted a social action program for the 1,600 delegates to the biennial congress convention in Edmonton May 15. One of the priority items is the development of health centres similar to those now operating in Sault Ste. Marie and St. Catharines which were established with trade union backing.

The congress executive asked the convention to increase dues paid by affiliates in order to raise about \$500,000 which could be used to promote the social action program.

New auxiliary described to ADA

A new dental auxiliary — the technotherapist — was described to participants at the American Dental Association's National Dental Health Conference in Chicago April 27-29.

"The technotherapist very simply is a dental auxiliary who is trained to perform many of the technical services previously performed by the dentist," said D. A. Soricelli who is director of Philadelphia's Division of Dental Health.

"Our girls were former dental assistants who were given an overall training period of approximately six months. Our own staff and facilities, admittedly anything but ideal for this function, were solely responsible," he explained.

The Philadelphia dentist said the technotherapist performs such functions as pumice prophylaxis, exposure of x-ray film, placement of rubber dam, placement of cement bases, cavity toilet, placement of matrix and wedges, insertion and carving of amalgam, and the subsequent finishing and polishing of restorations.

He said she does "everything in the area of operative dentistry except the injection of local anaesthetic and the cutting of the cavity preparation in addition to the other mentioned functions and their laboratory support."

Fluoridation

Newfoundland city to fluoridate

Corner Brook, Nfld, city council voted April 21 to fluoridate the local water supply.

The move came on the heels of the presentation of a brief on fluoridation by the Western Newfoundland Dental Association, compiled in conjunction with the health department. Council members had high praise for the den-

tal association's comprehensive brief.

In passing the motion, the council authorized the city staff to proceed with fluoridation immediately.

Quebec dentists press for fluoridation

Citing a critical shortage of dentists to serve the growing population, the Quebec Dental Surgeons' Association has called on the new provincial government to press for fluoridation of water supplies throughout Quebec.

The association, in a telegram to Health Minister Claude Castonguay, noted that only 10 per cent of the population benefits from dental care, although 90 per cent suffers from caries.

— it is the 25th anniversary of introduction of fluoridation by Brantford, Ont — the association said that this is the "first logical step in the establishment of a dental health care plan."

90 million Americans get fluoridation

More than 90 million Americans are drinking fluoridated water, according to the latest issue of the *Fluoridation Census* issued by the US Public Health Service. Almost two-thirds of the population served by communal water supplies is benefiting from fluoridation.

Six states have more than 90 per cent of their population receiving fluoridated water — Connecticut, Illinois,

The committee reported "that the fluoridation of water supplies at the level of 1 ppm F is a highly effective way of reducing dental decay and is completely safe."

The committee found that "the results of the dental examinations in the study areas over the past 11 years demonstrate the very considerable benefits which fluoridation confers. In the primary teeth of children aged three to seven inclusive, the amount of decay fell by about a half, more than twice as many children were free from decay, and the number of children with 10 or more decayed teeth fell by four-fifths.

"In the permanent teeth of children aged eight, nine and 10, the reduction in the amount of decay has been about a third, and again there was a substan-



STATEMENT BY THE HONOURABLE JOHN MUNRO, MINISTER OF NATIONAL HEALTH AND WELFARE, TO COMMEMORATE 25 YEARS OF FLUORIDATION IN BRANTFORD

Twenty-five years ago, on June 20, 1945, the City of Brantford, with a population of 35,000, was the first in Canada to initiate fluoridation of its municipal water supplies to improve the dental health of its citizens.

Today over 365 Canadian municipalities, with a population of more than six and a half million, are enjoying the protection of fluoride-adjusted water systems.

I have on several previous occasions stated that my department is satisfied that fluoridation of water supplies is the most important, practical and effective public health measure currently available for safely and economically reducing the incidence of dental caries.

I therefore advocate the widest, practicable implementation of this public health measure by the authorities responsible for communal water supplies in Canada.

John Munro

The telegram complained that fluoridation "has been the object of sterile discussions for too long — to the detriment of all."

A QDSA spokesman said that a \$100,000 investment in fluoridation could prevent 660,000 cavities — a saving of \$4 million (based on a rate of \$6 per restoration).

To date there are 35 fluoridated water systems in Quebec serving 73 municipalities and 700,000 people. Among the cities with fluoridation are Trois-Rivières, Laval and Pointe Claire.

The group suggested that Mr. Castonguay should follow the findings of the 1967 Castonguay Health and Welfare Commission (headed by the minister) which had urged that municipalities install, within the next three years, machinery to fluoridate drinking water with technical and financial aid of the Quebec government.

Noting that this would be a good year to begin implementation of fluoridation

Maryland, Minnesota, Virginia and Wisconsin.

Britain pushes fluoridation, based on test data

A recent British government report on 11 years of its fluoridation test projects adds more evidence to the consistent results of fluoridation's effectiveness.

Fluoridation offers local communities "the opportunity of making a simple decision about the amount of dental caries their children shall suffer," said G. E. Godber, the government's chief medical officer, in releasing the report.

Doctor Godber reported that the government's committee on research into fluoridation was "unable to find any harmful effects resulting from the fluoridation of water supplies." As to alternative measures, he said that "none offers such certainty of general improvement in the teeth of children."

tial increase in the proportion with no dental decay."

The report states that in the 11 year period physicians reported only two patients with symptoms which might have been associated with fluoridation. "Careful investigation in both instances failed to attribute the symptoms to the drinking of fluoridated water."

The committee did not overlook the "cosmetic effect" of fluoridation. "Dentists who have worked in those areas where the water supply is fluoridated are firmly of the opinion that the improved structure of teeth calcified under the influence of fluoridation results in a strikingly good appearance," it said.

Translating to the national level the results of the measure for 10 year old children in Watford, the committee stated that this would represent "a potential reduction of the need to fill over a million permanent teeth in children up to that age each year."

The report also included some evidence in reverse of fluoridation's effectiveness with data from Kilmarnock, a test project which discontinued the measure after six years. It was documented that fluoridation in Kilmarnock resulted in a "substantial reduction" in decay in primary teeth of children up to the age of seven, but discontinuing the procedure "has now resulted in a rise in the prevalence of decay almost to the level found prior to fluoridation."

Fluoride in air no hazard, says pollution group

Fluoride concentrations in the air pose no hazard for communities with water fluoridation, according to the US National Air Pollution Control Administration.

Fluoride concentrations in the atmosphere are routinely measured at sampling stations across the United States. The data collected in this way do not support claims of hazards from inhaled fluoride to people living in communities with fluoridated water supplies.

Regional Conventions

Mouth is important emotionally, psychiatrist tells orthodontists

A Toronto psychiatrist advised dentists to discover the underlying reasons that motivate people to seek orthodontic treatment.

W. A. Hawke told the Ontario Society of Orthodontists May 11 that older people who seek this treatment are sometimes unconsciously seeking happiness, friends or social success. The dentist who is aware of the patient's expectations, tensions and anxieties is likely to achieve a happier outcome.

Doctor Hawke is director of the Division of Growth and Development at Toronto's Hospital for Sick Children. He gave the orthodontists, who were meeting in conjunction with the Ontario Dental Association convention, five reasons why the mouth is important emotionally.

The mouth is the infant's first contact with the outside world and, through nursing, with another person. Sensation develops in the mouth much earlier than in the hands. The mouth also has a strong relationship with the satisfaction of need — hunger appeased by food leading to relaxation. The mouth is important in the expression of feelings — by facial expression first and later by speech. Still later the mouth plays a sexual role as an erotogenic area.

Children or adolescents who resist orthodontic treatment are often really fighting their parents, not the dentist, who is just caught in the middle.

"Don't play the heavy role," the psychiatrist warned. A dentist may be able to persuade the youngster to cooperate, but if he is punitive he will merely increase the resistance.

Older people

Older people may repress the painful fact of their loneliness, blaming their crooked teeth for what they regard as their inadequacy. But often their depression can be relieved by a discussion which helps them to face the real goals they seek through orthodontic treatment, Doctor Hawke said.

Orthodontic treatment can sometimes precipitate depression by removing the patient's excuse for his failure, the psychiatrist warned.

Doctor Hawke said emotional tension can cause or aggravate symptoms through muscle spasm around the head and neck. Sometimes these may be in areas of some anatomical defect, but not be caused by it. Bruxism, which is caused by tension, is often blamed for many troubles. Sometimes the orthodontist corrects the defect, but the patient still has his symptoms because of their emotional basis, causing him to take his complaints to an otolaryngologist.

Pain threshold

Doctor Hawke also told the dentists that a New York study had shown that children, like adults, have a high or low pain threshold and differ in their reactions to pain and to treatment. These differences seem to be innate and to persist from early childhood throughout life. Dentists should be aware of this, so that they do not merely think a difficult child is spoiled.

Menopause

A menopausal or older patient may suffer from a hidden depression. The patient will not talk about being depressed but will complain of fatigue or physical symptoms, aches and pains, Doctor Hawke said. Dental procedures are unlikely to help such a person who may become very upset afterward.

Disturbed patients

Orthodontic treatment for adolescent schizophrenics also is doomed to failure, often leaving an even more disturbed patient who has put unrealistic expectations on the treatment.

Doctor Hawke said one research study of 35 patients undergoing orthodontic treatment showed that half were tense, anxious and ground their teeth; five had stable personalities; and 10 had problems of a schizophrenic nature,

with much suppressed hostility. A significant number were made worse by orthodontic procedures.

Thumbsucking

Doctor Hawke had one cheering note for the orthodontist.

He said the dire warnings of causing emotional upheaval by stopping a child from thumbsucking usually are not true. If the habit is producing a jaw deformity, the dentist must treat it, if necessary by inserting an appliance to discourage the sucking. A lot of children suck their thumbs from habit, as adults chew gum or smoke cigarettes. Not all cigarette smokers or gum chewers have deep emotional problems, he said.

Brush back of tongue, US dentist advises

The old idea that cleaning the teeth 15 minutes after eating is enough to prevent tooth decay is wrong, the chief of the US Army Dental Corps told an Ontario Dental Association convention meeting May 12.

Col. S. N. Bhaskar said dental caries and periodontal disease are both caused by dental plaque. Plaque, which is created by the action of streptococcal bacteria and sugar, traps further bacteria and fungi.

Col. Bhaskar said that meticulous brushing can remove only 95 per cent of dental plaque; the rest is in the interproximal spaces and other areas which cannot be reached by the toothbrush.

Col. Bhaskar had this advice for patients and dentists:

Brush the labial, buccal, lingual and occlusal tooth surfaces with a soft nylon brush; then put the brush surface against the teeth and wiggle it so that the bristles gently penetrate the interproximal spaces; brush the inside of the cheeks; and brush the back of the tongue.

Most of the bacteria in the mouth come from the back of the tongue, fewer from the teeth and fewer still from the gums, Doctor Bhaskar said.

For a young person, with healthy gums, those four points are enough. Older people should also use dental floss between the teeth at least once every 24 hours.

Col. Bhaskar said patients who wear orthodontic or other fixed appliances, or those with certain periodontal diseases, should also use a water jet device around their teeth daily.

For the dentist, Col. Bhaskar had one major preventive tip: thorough prophylaxis with ultrasonic devices, accompanied by an intermittent water jet which removes the plaque.

Pregnant women, he said, should have their teeth scaled every three

months, because all suffer some gingivitis during pregnancy.

The birth control pill causes a gingivitis similar to that seen in pregnancy. It also retards healing of the gums, so that women taking the pill respond poorly to oral surgery. Doctor Bhaskar said he asks women to stop taking the pill if they require periodontal surgery.

Transplantation held of questionable value

The oldest form of tissue transplantation — tooth transplantation — has the least predictable results, according to a Rochester, NY, oral surgeon.

Bejan Iranpour, head of the Department of Oral Surgery at Rochester's Eastman Dental Centre, spoke to 180 dentists in Montreal attending the May 21-22 convention of the Quebec Dental Surgeons' Association.

He said 61 per cent of replanted teeth survive for one year but only 2.5 per cent survive 10 years. These results occur regardless of whether the teeth receive endodontic treatment extra-orally at the time of transplantation or later in the mouth.

Except for the advent of antibiotics, the surgical technique for tooth transplantation has remained virtually unchanged since the middle 1800's. Consequently, the key to success or failure resides elsewhere, Doctor Iranpour said.

He identified trauma, infection and the terminal blood supply to teeth as major hazards which complicate tooth transplantation. An additional complication arises from immunological rejection phenomena in the case of allographic transplants (from different animals or individuals of the same species).

Doctor Iranpour said tooth replacement by a bridge is usually more practical than by transplantation. Too little is known about synthetic graft materials to warrant their use. As a result, tooth transplantation may be one of the last forms of tissue transplantation to become a practical mass method of saving teeth.

Preprosthetic surgery often unnecessary, says oral surgeon

All impacted wisdom teeth and supernumerary teeth should be removed before they become abscessed or give rise to cysts.

Bejan Iranpour, a Rochester, NY, oral surgeon, told the Quebec Dental Surgeons' Association May 21-22 that impacted third molars are most easily removed in teenagers.

A good deal of preprosthetic surgery would be unnecessary for patients with "problem" dentures if dentists would first seek advice from a prosthodontist. The alveolar ridges can be extended

with bone grafts if necessary, but a trial denture may succeed without this, he said.

Doctor Iranpour offered the following practical tips for office oral surgery:

There should always be enough space in the tuberosity region to accommodate dentures and allow clearance for the lower jaw.

It is preferable to leave alveolar bone after reflecting a flap and removing teeth in multiple extractions. The bone will generally assume a predetermined shape and spicules, if any, can be trimmed at a later date if necessary.

Inflammatory and fibrous hyperplasia in the labial and buccal vestibules, due to overextended dentures, often subsides spontaneously when the dentures are removed or the flanges are reduced.

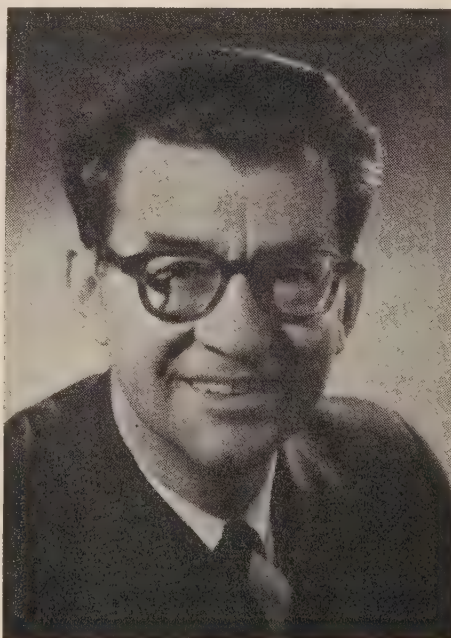
Biopsy specimens should be mandatory for every patient with a radiolucent lesion and a history of malignant disease.

Dental Education

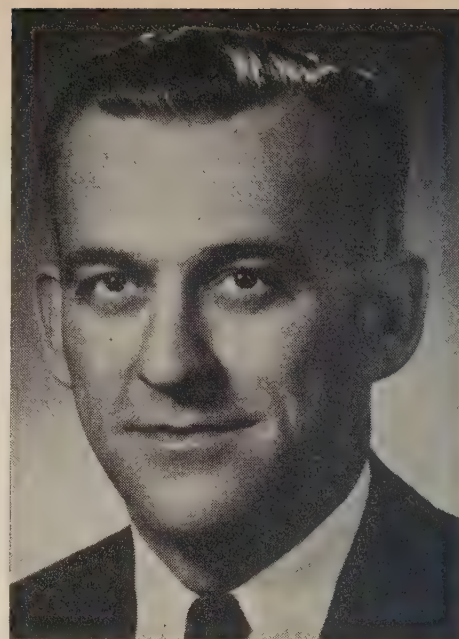
Doctor Nikiforuk to head Toronto faculty

Gordon Nikiforuk, director of the Division of Biological Sciences at the Faculty of Dentistry, University of Toronto, has been named sixth dean of the faculty. He succeeds P. G. Anderson who served as acting dean since the retirement last December of R. G. Ellis.

Doctor Nikiforuk returned to Toronto last year from the School of Dentistry of the University of California at Los Angeles where he was acting dean, professor of paediatric dentistry, director of dental research and chairman of the oral biology division.



Gordon Nikiforuk



James McCutcheon

A native of Redfield, Sask, he earned a DDS from the University of Toronto in 1947 and an MS from the University of Illinois two years later. In 1950 he became associate professor of preventive dentistry at the University of Toronto and was promoted to full professor in 1956.

Doctor Nikiforuk has held numerous other appointments. They include: chairman of the University of Toronto's Division of Dental Research 1954-64; assistant director of dentistry, Toronto Hospital for Sick Children 1952-64; chairman of the CDA Council on Research 1956-58; and chairman, Dental Study Section, Division of Research Grants, US National Institutes of Health 1967-68.

He holds a specialist's certificate in paedodontics from the Royal College of Dental Surgeons of Ontario and is a fellow of the Royal College of Dentists of Canada.

James McCutcheon succeeds H. R. MacLean as dean of Alberta school

James McCutcheon, dean of the Faculty of Dentistry of McGill University, Montreal, has resigned to accept a similar position at the University of Alberta, Edmonton. He succeeds H. R. MacLean, CDA president, who retired from the academic post June 30.

Doctor McCutcheon graduated from McGill University in 1945. Three years later he earned an MSD degree in prosthodontics at the University of Michigan. In 1948 he was named associate professor of prosthodontics at McGill, rising successively to acting dean in 1955, dean in 1956, and professor of dentistry in 1960.



Members of the Ladies' Auxiliary to the Hamilton Academy of Dentistry capped their 1969-70 year with a luncheon at the Estaminet Restaurant, Burlington, Ont, where they presented a cheque for \$800 to the Canadian Fund for Dental Education. Pictured, from left to right, are executive officers of the Ladies' Auxiliary Mrs. F. A. Bodnar, Mrs. D. R. MacKay, Mrs. J. E. P. Fawcett and Mrs. W. G. Madronich as they discuss the work of the fund with CFDE Executive Director D. M. McDonald. The Hamilton auxiliary has now donated \$2,800 to further dental education and research in Canada.

Doctor McCutcheon has held numerous other professional appointments. He was dental surgeon in chief and director of the Department of Dentistry at the Montreal General Hospital and he is a consultant in prosthodontics to the Canadian Forces Dental Services. A charter fellow of the Royal College of Dentists of Canada, Doctor McCutcheon is also a charter member of the Canadian Academy of Prosthodontics and has served as chairman of the CDA's Council on Education 1964-7.

Doctor MacLean leaves the University of Alberta after serving as dean of its dental school for the past 12 years. A native of Finch, Ont, he graduated from the University of Alberta in 1928. Two years later he opened a private practice in Edmonton. He joined Alberta's faculty in 1935, rising successively to head of the Department of Restorative Dentistry in 1937, professor of restorative dentistry in 1946, head of the faculty's Section of Oral Diagnosis in 1948, and becoming dean in 1958.

Always closely identified with dental education, Doctor MacLean served the former Dominion Dental Council 1938-52, the Associate Committee on Dental Research of the National Research Council 1946-59, the National Dental Examining Board of Canada 1953-68, and the Executive Council of the American Association of Dental Schools 1961-67.

A past president of his local and provincial dental associations, Doctor MacLean represented the Alberta Dental Association on the CDA Board of Governors from 1963 and was elected to the CDA Executive Council in 1965. He is a fellow of the American College of Dentists, a past president of the International College of Dentists (Canadian Section), and an honorary member of the Canadian Academy of Restorative Dentistry.

NDEB sets new policy for Canadian graduates, foreign dentists

Effective 1971, all graduates of Canadian dental schools may obtain the National Dental Examining Board's certificate without further examination. The decision, announced at the board's annual meeting early in May, results from a change in the accreditation of dental schools. The NDEB now has a strong role in these accreditation procedures.

NDEB examinations will still be set annually for American graduates and for Canadian graduates from previous years who wish to obtain the certificate.

In another important decision the NDEB will, effective 1971, provide a screening examination for all foreign dentists who wish to practise in Canada. Those who pass will receive an NDEB

certificate. The examination will be conducted over a three week period and will consist of written, preclinical and clinical tests. These will be open to foreign graduates of any university-based dental school listed in the *World Directory of Dental Schools* published by the World Health Organization. The examinations will be conducted annually, in French or English, in Montreal or Toronto.

The meeting also saw the resignation of H. N. Beach, Ottawa, registrar since the board's inception 17 years ago. Replacing Doctor Beach as temporary registrar is D. B. Proctor, Winnipeg.

Students at Montréal and Toronto Universities earn War Memorial Essay awards

The CDA Council on Education has announced the names of prize-winning students in the 1969-70 War Memorial Essay Competition. They are: Pierre Duquette, Université de Montréal, who won the \$200 first prize, and T. W. Rice, University of Toronto, winner of the \$100 second prize.



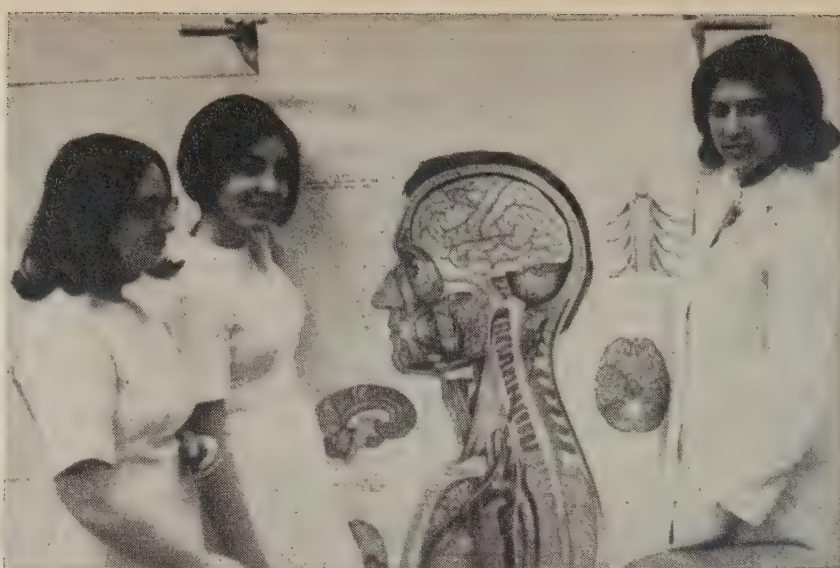
T. W. Rice

The awards go to two final year students at Canadian dental schools who submit the best essays on an assigned topic. This year's topic was "The Physiology of the Human Periodontium; Physiologie du paradonte chez l'homme." The awards commemorate Canadian dentists who gave their lives in World Wars I and II.

Saskatchewan school pioneers innovations in dental education

The new College of Dentistry at the University of Saskatchewan will set up a modern hospital dental department to link undergraduate dental training more closely with medical departments in the university.

The program will also mean extending the course to six years instead of the customary five, with sixth year students gaining practical experience, on an intern basis, partly through the hospital department.



Dental assisting students in training at St. Clair College of Applied Arts and Technology, Windsor, Ont. Top left, histology class; top right, receiving instruction in anatomy; above left, class in dental laboratory assistance.

partment will be W. A. Cotter, a Saskatchewan prosthodontist. He is setting up a prosthodontic unit in the college and lectures on the topic to second year students.

Doctor Cotter's work is closely allied with that of plastic surgeons. For example, he has already designed an appliance for a man who lost part of his jaw and cheek bones by surgery.

The work is expanding beyond the strictly dental and involves developing other appliances for special cases.

The prosthodontic and hospital dental departments underline the fact that dental care is an integral part of the total health picture, essential to both dental training and the well-being of the individual, Doctor Sinclair said.

The two allied programs are becoming focal points of the entire dental training program of the college which will graduate the first class in 1974.

Windsor community college graduates dental assistants

St. Clair College of Applied Arts and Technology in Windsor, Ont, graduated its first class of 25 certified dental assistants in May.

Aided by two Windsor dentists, A. W. Lampe and L. J. Schiller, St. Clair began the one year course last September. It is the first community college in Ontario to train dental assistants.

First semester classes consisted of the theory of dental anatomy and physiology; studies of tooth chronology, eruption and root formation; and laboratory sessions on mixing dental and impression materials.

During the second semester, students were assigned daily to local dental offices to gain experience in chairside assisting.

Local dentists participated in the weekly lectures, supplementing the instruction given by Doctor E. Iwasiw and the course director, Miss S. M. Conville.

Canadian Forces Dental Services

The "Quarterly" has a new name

The Royal Canadian Dental Corps Quarterly has been renamed *The Canadian Forces Dental Services Quarterly*. The new designation began with the April 1970 edition (Vol 11, No 1).

The Quarterly made its first appearance in April 1960. Noting the change in its title, Brig.-Gen. B. P. Kearney, Director General of Dental Services, said it coincided with the change in designation of the Armed Forces Dental Services.

Col. Thompson to command Central Region

Canadian Forces Headquarters recently announced the appointment of Lt.-Col. W. R. Thompson as command den-



Col. W. R. Thompson

J. H. Sinclair, department head, said the program will differ from the usual hospital care of dental patients in that it is designed with training needs in mind.

Doctor Sinclair, who came to the University of Saskatchewan last year from the hospital dental department he headed at Dunedin, New Zealand, said such affiliated departments are common in his country and in England, but are a radical departure on this continent.

Working closely with the hospital de-

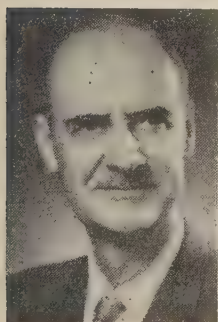
tal officer, Central Region, and commanding officer of No 13 Dental Unit with headquarters at Canadian Forces Base Trenton. Lt.-Col. Thompson has also been promoted to colonel.

A native of Campbellford, Ont, Col. Thompson graduated from the University of Toronto in 1949. He was in the Canadian Dental Corps and the Royal Canadian Air Force during World War II. His service career includes postings to Europe, Korea and various stations in central and eastern Canada. He has also been an instructor at the Canadian Forces Dental Services School in Base Borden, Ont, and a staff officer at Canadian Forces Headquarters in Ottawa where he was consultant in oral surgery at the National Defence Medical Centre. In 1969 he became the first dental officer in the Canadian Forces to be certified in oral surgery.

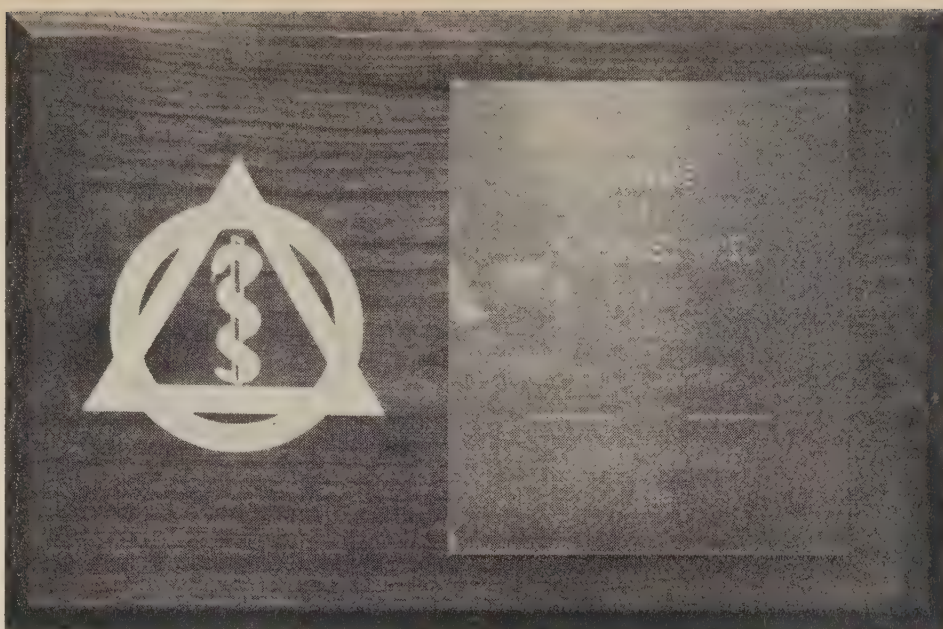
Col. Thompson spent the past year as a staff officer at Canadian Forces Base Trenton and oral surgeon at the Kingston Military Hospital. He has also instructed in oral surgery and anaesthesia at the Canadian Forces Dental Services School and at the Czechoslovakian dentist training program at the University of Western Ontario.

Awards and Appointments

Recipient of an honorary membership from the Ontario Dental Association is **R. G. Ellis**, Toronto. Doctor Ellis, for 22 years dean of the Faculty of Dentistry, University of Toronto is now chairman of the university's Health Sciences Council. A native of Peterborough, South Australia, he graduated in dentistry from the University of Adelaide in 1926. Doctor Ellis came to Canada in 1928 and earned a DDS from the University of Toronto the following year. He joined the staff of Toronto's Faculty of Dentistry in 1931. In 1936 he became director of clinics and was promoted to dean in 1947, holding that post until December 1969. Doctor Ellis has held



R. G. Ellis



Four dentists received these attractive plaques from the Quebec City Dental Society, May 2, marking 25 years of continuous dental practice. The recipients were André Racine, Marcel Noel, P. H. Corcoran and Gaston Laflamme. Recipients of certificates for distinguished service to the society and the profession were Anthime Racine and Georges Lepage.

many senior offices in national and international organizations including the American Association of Dental Schools, the Associate Committee on Dental Research of the National Research Council of Canada, and the Councils of Research and Education of the Canadian Dental Association. He was awarded the Centennial Medal of Canada in 1967 and holds an honorary doctor of laws degree from the University of Western Ontario.

Jean-Paul Lussier, dean of the Faculty of Dental Surgery, Université de Montréal, has been named a consultant to the Commission on Education of the Fédération Dentaire Internationale. The commission has 30 consultants, including two other Canadians, **G. S. Beagrie** and **R. G. Ellis** of the University of Toronto.

R. P. E. Perry, a dentist and a member of Windsor, Ont, city council for 18 years, has been named Citizen of the Year by the local Civitan Club. Doctor Perry was honoured April 15 at a dinner marking the 50th anniversary of Civitan International. Club President Larry Ouellette said Doctor Perry was honoured for his unpublicized efforts to improve the lot of children. He noted Doctor Perry had worked on behalf of

crippled children and had tried to improve educational opportunities for underprivileged young people. In addition, Doctor Perry had assisted at the Windsor Civitan Dental Clinic since its inception 10 years ago, had served on the boards of the YMCA and Children's Aid Society, and had supported other charitable organizations as well.

Paul Simard, Lévis, Que, was named the Quebec Dental Surgeons' Association's first honorary member May 22 on his retirement as editor of *Le Journal Dentaire du Québec*. Succeeding to the editorial position is Marcel Hébert, Montreal.

Deaths

Dault, Leo. 59. Penetanguishene, Ont. Université de Montréal, 1943. 14-5-68.
Dupras, Gustave. 61. Montréal. Université de Montréal, 1932. 24-4-70. Survéçu par son épouse.
Hawkins, James Donald. 61. Edmonton. University of Alberta, 1932. 23-5-70. Survived by Donald Blair (son); Mrs. Dale Butler (daughter); and two brothers.
Robinson, Tremaine Norman. 75. Hamilton, Ont. University of Toronto, 1926. 9-10-69. Survived by his wife.
Wilson, Arthur Hunter. 72. New Glasgow, NS. Royal College of Dental Surgeons of Ontario, 1920. 24-4-70.

L'Association

Les "Délibérations" de 1970 ne seront envoyées que "sur demande"

Les *Délibérations* de 1970 de la réunion du Bureau des Gouverneurs à Winnipeg sont actuellement en préparation mais elles ne seront pas envoyées automatiquement à tous les membres de l'Association.

Les lecteurs qui désirent recevoir un exemplaire des *Délibérations* doivent écrire au plus tôt au Directeur Général, Association Dentaire Canadienne, 234 rue St-George, Toronto 180, Ont.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 mai 1970:

Fonds d'obligations gouvernementales \$14.098 (\$13.852 le 31 mai 1969; \$13.574 le 31 mai 1965);

Fonds d'obligations corporatives \$15.374 (\$15.056 le 31 mai 1969; \$14.362 le 31 mai 1965);

Fonds d'actions ordinaires \$18.688 (\$27.707 le 31 mai 1969; \$20.015 le 31 mai 1965).

Le paragraphe 79B de la loi régissant l'impôt sur le revenu autorise des contributions non imposables à un programme de retraite personnelle, représentant jusqu'à 20 p.c. du revenu, avec un maximum de \$2,500.

La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC offre trois sortes de placements distincts: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les contributions peuvent être faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

Le fonds d'obligations gouvernementales, qui se compose uniquement de bons du trésor et autres sécurités à revenu fixe, offre un très bon revenu avec un risque très faible. Le fonds

d'obligations corporatives, qui se compose de bons, d'obligations, d'actions privilégiées et d'autres sécurités à revenu fixe, offre un revenu maximum. Le fonds d'actions ordinaires, qui se compose d'actions ordinaires canadiennes, américaines et étrangères soigneusement choisies, a comme objectif principal l'augmentation du capital.

L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Le Canada

Le temps gratuit pour les annonces télévisées sera maintenu

Le Conseil de la Radio-Télévision canadiennes a rassuré les organisations bénévoles qu'elles ne seront pas privées de temps d'annonce gratuit à la TV aux heures de forte écoute. Plusieurs de ces groupes, y compris l'Association Dentaire Canadienne, avaient présenté des mémoires au CRTC pour exprimer leur crainte que la limite proposée de 12 minutes pour les annonces commerciales de TV aux heures de forte écoute n'entraîne la suppression des annonces d'intérêt public accordées gratuitement par les stations et réseaux.

Le CRTC a répondu dans une déclaration que si cela devait se produire, "par interprétation ou par pratique, le Conseil veillerait à corriger la situation".

Le vice-président du CRTC, M. Harry Boyle, a déclaré qu'il n'avait pas encore été décidé d'inclure les annonces d'intérêt public dans les 12 minutes projetées, mais que le conseil désirait rassurer les groupes et les organismes, et régler les détails plus tard.

Début de l'enquête nationale sur la nutrition

La Direction des Aliments et Drogues du Ministère de la Santé nationale et du Bien-être social organise une en-

quête nationale de deux ans sur la nutrition, qui débute ce mois-ci dans les comtés de Dufferin et Wellington dans le sud de l'Ontario.

Quatre districts d'énumération ont été choisis dans ces comtés sur la base du niveau de revenu et du genre de population, par exemple urbaine ou rurale. Après une entrevue préliminaire, les familles choisies se rendront aux cliniques des enquêteurs. Là, on les interrogera sur leur consommation alimentaire, ils seront pesés, subiront un examen clinique et des échantillons de sang et d'urine seront prélevés pour analyse.

Le Ministre de la Santé nationale et du Bien-être social, M. John Munro, avait annoncé cette enquête en novembre dernier. Elle couvrira 21,000 personnes dans cinq régions du Canada: les provinces atlantiques, le Québec, l'Ontario, les prairies et la Colombie-Britannique. On compte ainsi recueillir des renseignements sur l'état nutritif des Canadiens, qui seront utiles pour la préparation des programmes d'hygiène publique et des règlements sur les aliments et les drogues.

Les organisations dentaires

Election du Dr G. Houle à la présidence de la Société Dentaire de Québec

Le 2 mai dernier avait lieu l'élection du nouvel exécutif de la Société Dentaire de Québec. Le Dr Gérard Houle est le nouveau président en remplacement du Dr Guy Maranda. Les membres de l'exécutif sont: les docteurs Jean-Louis Bertrand, Jean-Claude Giguère, Pierre Marchand, Conrad Audy, Amyot Langlois, Marcel Demers, Georges Gagnon et Ian Mackay.

L'élection avait été précédée d'une journée d'étude à l'hôpital Laval durant laquelle le Dr Yves Marquis, cardiologue, avait présenté une causerie sur la cardiologie et la dentisterie. Au cours de l'après-midi, le Dr Denis Forest de la Faculté de chirurgie dentaire de l'Université de Montréal prononça une conférence sur le diagnostic en dentisterie. Les participants ont également eu l'occasion de visiter les locaux et

l'unité coronarienne de l'Institut de Cardiologie de Québec.

Chronique internationale

Première conférence sur les relations extérieures lors du congrès de la FDI

La première conférence internationale sur les relations extérieures de la profession dentaire aura lieu lors du congrès annuel 1970 de la Fédération Dentaire Internationale, qui se tiendra du 26 septembre au 1er octobre à Bucarest, en Roumanie.

Les délégués officiels canadiens à cette rencontre internationale seront le Dr H. R. MacLean, président de l'ADC et le Dr W. G. McIntosh, directeur général.

Les nouvelles du Parlement

Soins dentaires pour les Indiens

Le Ministre de la Santé, M. John Munro, vient de préciser la position d'Ottawa sur l'attribution de soins dentaires aux Indiens.

Il a nié que les personnes d'origine indienne aient droit à des extractions, restaurations ou prothèses gratuites. Le gouvernement fédéral, a-t-il dit, estime que la responsabilité de sa santé appartient d'abord à l'individu, puis à son groupe et troisièmement aux programmes provinciaux.

Ce n'est que lorsque ces trois recours ont été insuffisants que le gouvernement fédéral intervient. M. Munro a déclaré que cette position s'appuie sur le fait que, traditionnellement et constitutionnellement, la responsabilité des services de santé a appartenu aux provinces et s'applique à tous leurs résidents.

Cependant, nombre de personnes d'origine indienne vivent dans des régions isolées ou sont indigentes et ne peuvent donc ni obtenir, ni payer normalement les soins dentaires ou médicaux. Chaque année, le parlement attribue des crédits permettant d'assurer l'hygiène publique et les soins dentaires et médicaux essentiels à ces personnes. Afin que ces sommes soient utilisées comme prévu, il est nécessaire d'établir certains critères définissant les individus qualifiés pour recevoir cette aide et d'imposer certaines limites aux services que le gouvernement est prêt à approuver.

Pour bénéficier de l'assistance fédérale, un patient doit être inscrit auprès d'une agence indienne et doit être in-

capable de payer ses frais médicaux ou dentaires, ou être tellement isolé que le coût du déplacement soit prohibitif.

Le patient n'a pas droit à l'assistance fédérale si tout autre organisme – le Ministère des Affaires des Anciens Combattants, la Commission des Accidents du Travail, un régime d'assurance ou un autre organisme provincial – assume le paiement des frais.

Lorsqu'un Indien quitte la réserve et après un laps de temps a droit à l'assistance municipale, provinciale ou autre, il cesse également de bénéficier de l'aide fédérale.

M. Munro a déclaré que le but du programme fédéral d'assistance aux Indiens était de permettre aux bénéficiaires d'atteindre un niveau de santé comparable à celui des autres habitants de la province. Dans la plupart des provinces, les Indiens bénéficient des mêmes régimes d'assurances hospitalière et médicale que tous les autres citoyens, a-t-il dit. Pour les besoins particuliers qui dépassent les régimes provinciaux, le gouvernement fédéral s'efforce de suppléer aux services provinciaux.

Congrès régionaux

Succès du premier congrès de l'ACDQ

Le premier congrès annuel de l'Association des Chirurgiens-Dentistes du Québec a eu lieu cette année à l'Université de Montréal, les 21 et 22 mai, et a reçu d'emblée l'appui d'un grand nombre de dentistes, d'assistantes dentaires et d'exposants.

Au cours d'une conférence de presse, le président de l'ACDQ, le Dr Hubert La Belle, a répété les quatre points principaux de la politique actuelle de l'association provinciale: la fluoruration, une meilleure répartition des dentistes à travers le Québec, l'instauration de la profession d'assistant ou d'assistante dentaire et l'élargissement de la loi de l'assurance-maladie pour inclure les soins dentaires pour tous les assistés sociaux, adultes et enfants.

Le programme scientifique offrait un large choix de conférenciers dans les deux langues. Le Dr Bejan Iranpour, de Rochester, NY, a discuté de l'anesthésie locale, de la chirurgie buccale et de la transplantation des dents. Le Dr Walter Cohen, de Philadelphie, a parlé des dernières connaissances en périodontie. Un "teach-in" bilingue sur l'"Adaptic" a eu lieu avec la participation du Dr Guy Boyer et du Dr Ernest Ambrose de Montréal. Un autre "teach-in" sur la radiologie mettait en jeu le savoir des docteurs Denis Forest et Ramesh Kuba.

Vendredi, le 22 mai, le Dr Guy Ma-

randa de Québec, discutait des infections buccales et la conférence des docteurs Guy Beauséjour et L. Abelardo traitait des malocclusions. Le Dr Jacques Valiquette décrivait les prothèses maxillo-faciales et la conférence conjointe des docteurs Jean Guimond et Claude Chicoine traitait de la préparation des tissus mous et des dents naturelles en vue d'une prothèse partielle amovible.

L'atmosphère "calypso" et la camaraderie professionnelle reignait en roi lors du buffet dansant qui a couronné d'une façon magnifique la naissance du premier congrès annuel de l'ACDQ.

Le congrès des chirurgiens buccaux se prononce en faveur de l'opération des déformations de la mâchoire

"Nous pouvons vous refaire une mâchoire sur mesure". Cette remarque humoristique servait de thème à la réunion de 160 chirurgiens canadiens et américains, membres de la Société Canadienne des Chirurgiens Buccaux et du Great Lakes Society of Oral Surgeons. Cette première réunion annuelle conjointe a eu lieu à Toronto du 26 au 28 avril.

Le conférencier invité, le Dr Norman L. Rowe de Londres, a décrit les techniques britanniques actuelles de correction des déformations des mâchoires et du visage.

Le Dr Rowe, qui est chirurgien consultant auprès de trois hôpitaux londoniens et président de l'Association des Chirurgiens Buccaux de Grande-Bretagne, a signalé que les principales causes de déformations acquises de la mâchoire étaient les accidents et l'otite moyenne.

L'infection de l'oreille moyenne chez l'enfant, qui se produit près du centre de croissance condyloire, peut désorganiser l'articulation temporo-mandibulaire et provoquer une fusion unilatérale ou bilatérale du maxillaire inférieur à la base du crâne. La déformation qui en résulte se corrige en séparant le maxillaire du crâne et en insérant des greffons osseux prélevés sur les côtes ou la crête iliaque.

Les traumatismes, surtout dûs aux accidents de circulation peuvent aussi entraîner une déformation permanente s'ils ne sont pas traités promptement. Le Dr Rowe a montré la photographie d'un homme atteint de deux fractures de la mâchoire, une fracture du nez et une grave blessure à la joue, à la suite d'un accident de motocyclette. Quelques heures après l'accident – le Dr Rowe a souligné que l'opération doit être entreprise aussi tôt que possible après l'accident – il commença l'opération qui dura six heures. Lorsque le patient fut rétabli, il ne portait plus de signe visible de sa blessure.

Le Dr Rowe a dit que des influences génétiques étaient responsables de certaines graves déformations maxillaires de Classe III, telles que la mâchoire des Hapsburgs où le maxillaire inférieur est beaucoup plus grand que le supérieur. La résection de la mâchoire contribue à donner un profil plus agréable à ces patients.

Le Dr P. T. Smylski, président de la SCCB et professeur de chirurgie buccale à l'Université de Toronto, a déclaré que les hôpitaux de Toronto corrigent près de 100 déformations de la mâchoire par an et pourraient en traiter plus si plus de dentistes et le public en général savaient que ces opérations étaient possibles. Il a dit que les interventions rendent grands services au point de vue psychologique car elles améliorent l'aspect du patient. Chez les patients âgés, le rétablissement d'une occlusion fonctionnelle améliore la nutrition.

Les patients sont hospitalisés en moyenne pour cinq jours lors de ces opérations, a dit le Dr Smylski. Il n'y a pas de limite supérieure d'âge, que le patient porte une prothèse ou non, pourvu qu'il soit en assez bonne santé. Mais on n'opère pas les enfants âgés de moins de neuf ou 10 ans.

L'enseignement dentaire

Nouvelles dispositions du BNED envers les diplômés canadiens et les dentistes étrangers

A compter de 1971, tous les diplômés des facultés dentaires canadiennes pourront obtenir sans examen le certificat du Bureau national d'examen dentaire. Cette décision, annoncée lors de la réunion annuelle du bureau au début de mai, est due à la modification de l'accréditation des facultés dentaires. Le BNED joue désormais un rôle important dans les procédures d'accréditation.

Les examens du BNED auront toujours lieu chaque année pour les diplômés américains et les diplômés canadiens des années précédentes qui désirent obtenir le certificat.

Une autre décision importante du BNED prévoit, à partir de 1971, un examen de sélection pour tous les dentistes étrangers désireux d'exercer au Canada. Ceux qui réussiront recevront un certificat du BNED. L'examen se passera en trois semaines et comportera des épreuves écrites, précliniques et cliniques. Elles seront ouvertes à tous les étrangers diplômés d'une faculté universitaire inscrite dans l'*Annuaire Mondial des Facultés Dentaires* que publie l'Organisation Mondiale de la Santé. Les examens auront lieu chaque année, en français ou en anglais, à Montréal ou à Toronto.

Lors de la réunion, le Dr H. N. Beach d'Ottawa, et qui était registraire du bureau depuis sa fondation voilà 17 ans, a remis sa démission. Il sera remplacé à titre intérimaire par le Dr D. B. Proctor, de Winnipeg.

Les prix du Concours du Mémorial de Guerre sont décernés à des étudiants de Montréal et de Toronto

Le Conseil de l'enseignement de l'ADC a annoncé les noms des lauréats du Concours du Mémorial de Guerre 1969-70. Il s'agit de Pierre Duquette, de l'Université de Montréal, qui remporte le premier prix de \$200 et de T. W. Rice, de l'Université de Toronto, qui reçoit le second prix de \$100.



Pierre Duquette

Les prix sont décernés aux deux étudiants de dernière année des facultés dentaires canadiennes qui soumettent les meilleures dissertations sur un sujet donné. Le sujet cette année était: "The Physiology of the Human Periodontium; Physiologie du paradonte chez l'homme." Les prix sont dédiés à la mémoire des dentistes canadiens qui ont succombé au cours des deux guerres mondiales.

Subvention du "Fonds de ressources pour la santé" à la faculté dentaire de Dalhousie

Une contribution de \$161,755 du "Fonds de ressources pour la santé" du gouvernement fédéral a été accordée à la Faculté de chirurgie dentaire de l'Université Dalhousie de Halifax.

Cette somme aidera à défrayer le coût d'une étude de planification fonctionnelle pour une nouvelle école. La Faculté de chirurgie dentaire désire augmenter la formation du personnel dentaire aux niveaux requis pour desservir adéquatement les provinces atlantiques, fournir des programmes d'éducation universitaire, post-universitaire et permanente et, enfin, établir des programmes de recherche.

Les projets sur lesquels porte l'étude prévoient des locaux capables d'ac-

cueillir en première année 64 étudiants dentaires et 64 autres en hygiène dentaire, ainsi que 25 étudiants diplômés dans diverses disciplines. Il est actuellement possible d'accueillir 24 étudiants dentaires et 16 étudiantes en hygiène dentaire en première année.

Le Collège des médecins préconise un programme d'enseignement médical continu

Selon le Dr Yves Leboeuf, membre du personnel médical permanent du Collège des médecins et chirurgiens du Québec, celui-ci espère établir, d'ici peu, des mécanismes de liaison concrets entre le Collège et les divers organismes oeuvrant dans l'enseignement médical continu.

Le Collège des médecins a aussi décidé de procéder à un programme de visites périodiques dans tous les hôpitaux du Québec et de commencer une étude d'envergure sur la répartition géographique des effectifs médicaux.

Cours de perfectionnement en France

Les cours de perfectionnement de l'Ecole Odontologique de Paris auront lieu cette année du 7 septembre au 3 octobre 1970.

Orthodontie (Méthode de Ricketts) – les 7, 8, 9 septembre (toute la journée), par M. Philippe, professeur-adjoint et ses collaborateurs à l'intention des confrères connaissant déjà la technique Edgewise classique et la céphalométrie. Les intéressés sont priés de demander le programme au Secrétariat. Indemnité d'inscription: 800 Francs.

Prothèse totale – les 9, 10, 11 septembre (toute la journée) et 12 septembre jusqu'à midi, par M. Lejoyeux, professeur, chef de service et ses collaborateurs. Indemnité d'inscription: 800 Francs.

Prothèse totale – du 15 au 19 septembre (toute la journée), par MM. le Dr. Hervé et Pinguet, professeurs, chefs de service et leurs collaborateurs. Indemnité d'inscription: 1,000 Francs

Prothèse fixe – du 21 au 26 septembre (toute la journée), sous la direction de M. A.A. Clément, professeur, chef de service, par M. Renevier et ses collaborateurs: Préparations – Empreintes – Réalisation de Bridges. Indemnité d'inscription: 1,000 Francs. Par M. Jeanmonod et ses collaborateurs: La réhabilitation totale par prothèse fixe. Indemnité d'inscription: 1,000 Francs.

Céramique et Céramo-Métallique – le 23 septembre (après-midi) et les 24, 25, 26

septembre (toute la journée), par M. Robert Dupont, professeur, chef de service et ses collaborateurs. Indemnité d'inscription: 1,000 Francs.

Cours d'Initiation et de Perfectionnement à la Couronne Jacket en Céramique, Céramo-Métallique et Aluminéuse (1er Cycle) – du 17 septembre 13h.30 au 19 septembre 19h.00, par M. Pierre Gremeaux, professeur, chef de service, et ses collaborateurs. Indemnité d'inscription: 800 Francs.

Cours d'Initiation et de Perfectionnement aux Réalisations Unitaires Atypiques et Plurales (Bridges) en Céramique, Céramo-Métalliques et Aluminéuse (2ème Cycle) – du 1er octobre 13h.30 au 3 octobre 19h.00 par M. Pierre Gremeaux, professeur, chef de service et ses collaborateurs. Indemnité d'inscription: 800 Francs. Pour suivre ce dernier cours avec profit, il est conseillé aux auditeurs de posséder des connaissances égales à celles données dans le cours du 1er cycle.

Le nombre des auditeurs étant limité, seules les demandes accompagnées du montant de l'inscription seront retenues dans la mesure des places disponibles. Les confrères étrangers sont admis à ces cours. Adresser le montant, par chèque bancaire à l'ordre de l'Ecole Odontologique de Paris, 5 rue Garancière, Paris (6e), France.

L'économie

Un projet de loi décisif est rejeté en Nouvelle-Ecosse

Le projet de loi 54, qui aurait légalisé les mécaniciens dentaires a été repoussé en deuxième lecture le 25 mars par le parlement de la Nouvelle-Ecosse. Le projet de loi aurait autorisé les mécaniciens à faire affaire directement avec le public dans le domaine de la prosthodontie.

C'est principalement un comité de l'Association Dentaire de la Nouvelle-Ecosse, dirigé par le Dr E. F. Dexter, de Halifax, qui a oeuvré pour faire rejeter le projet de loi. L'Association des techniciens dentaires de la Nouvelle-Ecosse s'y était également opposée.

Deux syndicats choisissent le régime conventionnel de la Corporation de Services Dentaires de l'Alberta

Quelque 6,000 Albertains, sur un total qui s'élèvera finalement à 9,000 ont commencé, le 1er avril, à recevoir les prestations dentaires versées en vertu de deux régimes conventionnels de la Corporation de Services dentaires de

l'Alberta. Les autres ont été couverts à partir du 1er mai et du 1er juin.

Ces programmes, qui sont les deux premiers souscrits par la corporation, couvrent les membres du Retail Clerks Union et de l'Amalgamated Meat Cutters and Butchers Workmen of North America.

Les dentistes peuvent demander leurs "honoraires habituels" aux patients. Toute différence entre les prestations versées et les honoraires demandés par le dentiste reste à la charge du patient.

M. J. Lipkind, président de la CSDA, déclare qu'il s'attend à ce qu'une autre branche de l'industrie alimentaire participe au programme avant la fin de l'année, ce qui couvrirait alors 2,000 personnes de plus.

Le collège de la Saskatchewan entre dans le domaine de l'assurance

Une loi qui permettrait au Collège des Chirurgiens Dentistes de la Saskatchewan d'organiser des régimes de services dentaires sur une base non lucrative a été introduite au parlement provincial le 31 mars.

Cette législation, qui modifie la Loi de la profession dentaire, permettrait au collège de gérer des régimes conventionnels dentaires directement ou par l'intermédiaire d'une corporation sans but lucratif pour des groupes d'employés et leur famille.

F. T. Wihak, de Regina, ancien président du collège, a déclaré que celui-ci étudiait ce genre de régime depuis quelque temps déjà et désirait obtenir les changements légaux pour le réaliser.

La CPR signale la réaction encourageante de la profession dentaire à la politique de restriction des prix

La Commission fédérale des prix et des revenus signale que six organismes dentaires provinciaux ont appuyé la recommandation du Conseil Exécutif de l'ADC demandant que les relèvements des échelles d'honoraires dentaires provinciaux soient retardés ou limités durant 1970. Il s'agit de Terre-Neuve, du Nouveau-Brunswick, du Manitoba, de la Saskatchewan, de l'Alberta et de la Colombie-Britannique.

L'Île-du-Prince-Edouard, le Québec et l'Ontario n'ont fait aucune déclaration officielle. La commission ne prévoit pourtant pas de relèvement de l'échelle d'honoraires en 1970 pour l'IPE et le Québec.

En Nouvelle-Ecosse, un nouveau barème d'honoraires, rédigé et autorisé par l'Association Dentaire de la Nouvelle-Ecosse à l'automne 1969 est entré en vigueur en avril comme prévu.

Un directeur du CTC réclame plus de centres de santé syndicaux

Un chef syndical canadien a demandé la création au Canada d'un plus grand nombre de centres de soins de santé organisés par les syndicats.

Donald MacDonald, président du Congrès du Travail du Canada, qui compte 1,650,000 membres, a présenté un projet d'action sociale aux 1,600 délégués à la réunion biennale du Congrès, le 15 mai dernier à Edmonton. L'une des priorités serait la création de centres de santé semblables à ceux qui fonctionnent actuellement à Sault Ste-Marie et à St-Catharines, en Ontario, et qui ont été fondés avec l'appui des syndicats ouvriers.

Le responsable syndical a demandé au congrès d'augmenter les droits versés par les membres affiliés afin de dégager les \$500,000 nécessaires à lancer ce projet d'action sociale.

Le Corps Dentaire Royal Canadien

Le Brig.-Gén. Kearney prend sa retraite: le Col. Evans dirigera le Corps Dentaire

Le Col. G. C. Evans, âgé de 51 ans, sera promu Brigadier-Général le 15 juillet et nommé Directeur général des services dentaires pour les Forces armées canadiennes, dont le siège est à Ottawa. Il remplace le Brig.-Gén. B. P. Kearney qui prend sa retraite en juillet.

Le Général G. C. Evans



Le Général B. P. Kearney

Diplômé en chirurgie dentaire de l'Université de l'Alberta en 1944, le Général Evans était entré au Corps Dentaire en 1943 comme étudiant. Promu officier en 1944, il a servi dans diverses unités au Canada et outre-mer, dont un an en Corée en 1952 et en Allemagne de 1960 à 1963. Il a été affecté à l'état-major du Directeur général-

ral des services dentaires en juillet 1963 et il a reçu le commandement de l'unité dentaire No 11 en 1965.

Ses fonctions d'officier dentaire ont conduit le Général Evans en mer à bord du HMCS Ontario et à la base aérienne de Tofino en Colombie-Britannique, où il avait la charge des besoins dentaires des membres des escadrilles de reconnaissance et bombardement en 1945 et 1946.

La fluoration

Le président MacLean acclame l'anniversaire de la fluoration à Brantford

Le Président de l'ADC, le Dr H. R. MacLean, a félicité la ville de Brantford qui, la première au Canada, fluorait son service d'eau voici 25 ans. Dans une lettre adressée au maire M. Beckett, le Dr MacLean a rendu hommage au rôle de pionnier que la ville a joué en adoptant une mesure aussi importante.

"Les résultats ont prouvé que cette décision a été l'une des réalisations les plus importantes dans le domaine de l'hygiène préventive", a déclaré le président de l'ADC.

La fluoration à Terre-Neuve

Le conseil municipal de Corner Brook, à Terre-Neuve, a décidé le 21 avril de fluorer le service d'eau de la ville.

Cette décision fait suite à la présentation d'un mémoire sur la fluoration préparé conjointement par l'Association Dentaire de l'Ouest de Terre-Neuve et le ministère de la santé. Les membres du conseil ont fait l'éloge du mémoire qui traitait le sujet de façon complète.

En votant la motion, le conseil a autorisé le personnel de la ville à entreprendre la fluoration sans délai.

La Grande-Bretagne encourage la fluoration à cause du résultat de ses essais

Un rapport récent du gouvernement britannique sur 11 années d'essais sur la fluoration confirme une fois de plus l'efficacité de cette mesure.

La fluoration offre aux localités "l'occasion de choisir de façon simple la quantité de caries dentaires que leurs enfants subiront", a déclaré le Dr G. E. Godber, principal responsable médical du gouvernement, en rendant public le rapport.

Le Dr Godber a signalé que le comité gouvernemental de recherche sur la fluoration "n'a pas pu déceler d'ef-

fets nocifs attribuables à la fluoration des services d'eau". Quant aux autres mesures, a-t-il dit, "aucune ne présente la même certitude d'une amélioration générale des dents des enfants".

Le comité rapporte que "la fluoration des services d'eau à raison de 1 ppm de F est un moyen extrêmement efficace de réduire la carie dentaire et ne présente aucun danger".

Le comité trouve que "les résultats des examens dentaires effectués dans les régions à l'étude au cours des 11 dernières années démontrent les très importants avantages qu'apporte la fluoration. Dans les dents temporaires d'enfants âgés de trois à sept ans compris, le nombre de caries est tombé de moitié environ, les enfants sans carie étaient plus que deux fois plus nombreux et le nombre d'enfants ayant 10 dents cariées ou plus est tombé de quatre cinquièmes".

"Dans les dents permanentes des enfants de huit, neuf et 10 ans, la carie a été réduite d'environ un tiers et là aussi, il y avait une forte augmentation de la proportion d'enfants sans carie".

Le rapport déclare qu'au cours de la période de 11 ans, les médecins n'ont signalé que deux patients dont les symptômes auraient pu être associés à la fluoration". Un examen soigneux des deux cas n'a pas pu attribuer les symptômes à la consommation d'eau fluorée".

Le comité n'a pas négligé "l'effet esthétique" de la fluoration. "Les dentistes qui ont travaillé dans les régions où les services d'eau sont fluorés sont convaincus que la meilleure structure des dents calcifiées sous l'influence de la fluoration entraîne une amélioration frappante de leur aspect".

Si l'on transposait à l'échelle nationale les résultats de la fluoration enregistrés chez les enfants âgés de 10 ans de la ville de Watford, déclare le comité, on obtiendrait "une diminution possible du besoin d'obtenir plus d'un million de dents permanentes chaque année chez les enfants en dessous de 10 ans".

Le rapport fait aussi la preuve à l'envers de l'efficacité de la fluoration, grâce aux résultats de Kilmarnock, ville à l'essai qui interrompit la fluoration au bout de six ans. Il fut enregistré que la fluoration avait apporté à Kilmarnock "une réduction substantielle" de la carie des dents temporaires des enfants jusqu'à l'âge de sept ans, mais l'arrêt de la mesure "a entraîné une augmentation de la fréquence des caries presque jusqu'au niveau observé avant la fluoration".

Le fluor n'est pas dangereux dans l'atmosphère

Les concentrations atmosphériques de fluorure ne font courir aucun danger

aux villes dont l'eau est fluorée, selon le Service national de contrôle de la pollution de l'air des E.-U.

Les concentrations de fluor dans l'air sont mesurées automatiquement par les stations d'analyse réparties à travers les Etats-Unis. Les données ainsi obtenues ne confirment pas l'idée que l'inhalation de fluor, dans les villes dont le service d'eau est fluoré, serait dangereuse.

90 millions d'Américains bénéficient de la fluoration

Plus de 90 millions d'Américains boivent de l'eau fluorée, selon le dernier numéro de *Fluoridation Census*, que publie le Service d'hygiène publique des E.-U. Près des deux-tiers de la population desservie par les services d'eau municipaux bénéficient de la fluoration.

Dans six états — Connecticut, Illinois, Maryland, Minnesota, Virginie et Wisconsin — plus de 90 p.c. de la population consomme de l'eau fluorée.

La recherche

Nouveau revêtement de plastique liquide pour prévenir la carie

Les dentistes disposeront peut-être bientôt d'un nouveau préventif de la carie facile à employer si les premiers succès obtenus par le Dr Michael Buonocore au Centre Dentaire Eastman de Rochester sont confirmés par de nouveaux essais. Le Dr Buonocore signale qu'un revêtement de la surface occlusale de la dent la protège de la carie pendant au moins un an.

Lors de l'essai préliminaire, on a recouvert de l'adhésif de plastique 200 puits et fissures de l'émail occlusal de dents saines chez quelque 60 enfants. Une application de l'adhésif (résine combinant Bis Phénol A, glycidyl méthacrylate et méthyl méthacrylate monomère) protégea les surfaces pendant un an. Par contre, la carie est apparue sur 84 des 200 zones non-traitées sur des dents comparables situées de l'autre côté de la bouche des enfants. Le matériau était également efficace sur les dents primaires et permanentes.

Le revêtement agit en empêchant les aliments et les bactéries cariogènes de se bloquer dans les minuscules crevasses des surfaces broyantes. Les caries apparaissent plus souvent sur ces surfaces-là que sur les autres.

L'adhésif semble très prometteur non seulement à cause de son efficacité mais aussi parce qu'il est d'emploi si facile que le dentiste pourrait le confier aux hygiénistes dentaires. Il ne se fige que lorsqu'une lampe ultra-violette

est braquée dessus. Les rayons UV activent un produit (éther méthyl benzoïne) que l'on ajoute au matériau et qui fait immédiatement durcir la résine.

Lors des essais, le Dr Buonocore a utilisé une lampe en forme de revolver munie d'un miroir intra-buccal. On avance le miroir près de la dent de

sorte qu'il réfléchisse les rayons UV sur les surfaces traitées. La lampe est actuellement remodelée pour cet usage dentaire.

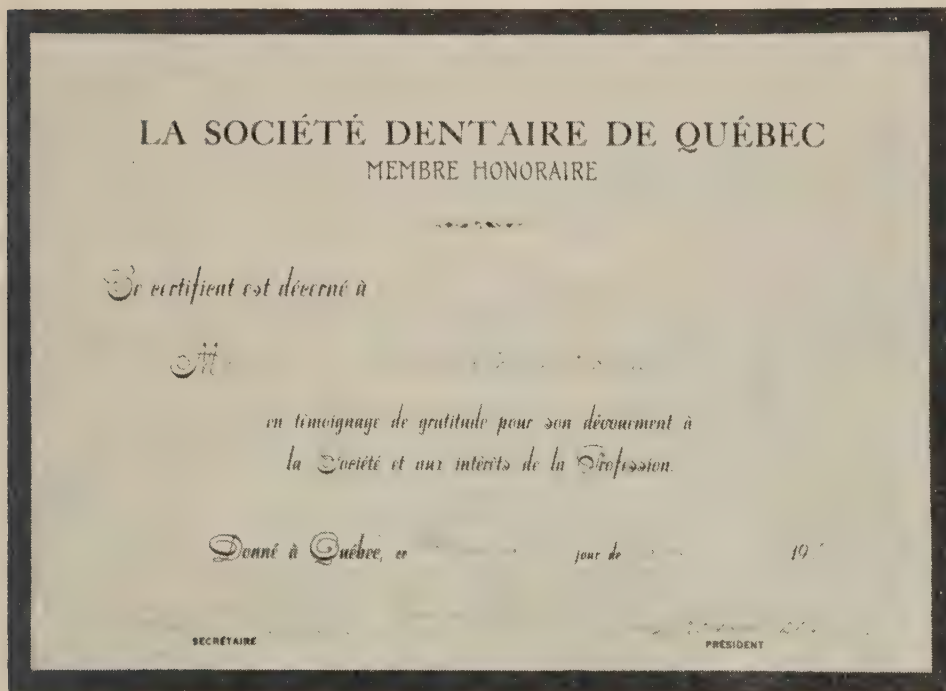
Décrivant son évaluation préliminaire du traitement, le Dr Buonocore a déclaré que "l'adhésif était demeuré en place pendant un an sur tous les 200

puits et fissures ainsi traités sauf une et ne montrait que peu ou pas d'usure même dans les plus fines crevasses". Six mois après le traitement, toutes les surfaces étaient encore complètement recouvertes d'adhésif, sans carie apparente. Entre l'examen du 6e mois et celui du 12e, la résine avait disparu d'une fissure mais il n'y avait pas de carie. Au bout d'un an, 195 des puits et fissures revêtus portaient l'adhésif en excellent état, avec peu ou pas d'usure; les quatre dernières étaient en bon état et avaient perdu par l'usure la moitié de la résine adhésive mais celle-ci couvrait encore totalement la fissure.

Pour vérifier la protection de la résine contre la carie le Dr Buonocore enleva au hasard le revêtement de 27 fissures. Toutes étaient vierges de carie.

L'étude du Dr Buonocore va être reprise avec un plus grand nombre d'enfants, qui seront suivis pendant au moins trois ans.

Ces matériaux ne se trouvent pas encore dans le commerce. Cependant, un équipement complet, avec adhésif, activateur et lampe UV doit être mis sous peu sur le marché.



C'est avec cette plaque et ce diplôme honorifique que la Société Dentaire de Québec rendit honneur aux docteurs André Racine, Marcel Noël, Hector Corcoran, Gaston Laflamme, Antoine Racine et Georges Lepage.

Distinctions honorifiques

Le Dr **Gérard De Montigny**, ancien rédacteur adjoint du *Journal de l'ADC*, a reçu une carte de membre honoraire de la Société Dentaire de Montréal lors de l'assemblée annuelle du 25 avril 1970.

Les docteurs **Anthime Racine** et **Georges Lepage** ont reçu des diplômes honorifiques de la Société Dentaire de Québec. Une plaque a également été remise aux docteurs **André Racine**, **Marcel Noël**, **Hector Corcoran** et **Gaston Laflamme** pour commémorer leurs 25 années de pratique dentaire.

Le Dr **Jean-Paul Lussier**, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, a été nommé consultant auprès de la Commission de l'éducation de la Fédération Dentaire Internationale. La commission compte 30 consultants, dont deux autres Canadiens, les docteurs **G. S. Beagrie** et **R. G. Ellis**, de l'Université de Toronto.

Final report on the efficacy of a stannous fluoride-calcium pyrophosphate dentifrice

W. A. Zacherl, DDS, DDPH
Columbus, Ohio

C. W. B. McPhail, DDS, MSD, MScD
Saskatoon, Sask

This final report on the anticariogenic efficacy of a stannous fluoride-calcium pyrophosphate — stannous pyrophosphate dentifrice shows consistent reductions in new DMF surfaces and teeth after 10, 18 and 30 month intervals. The reductions for surfaces range from 39 to 42 per cent; those for teeth range from 34 to 44 per cent. The results were proportional to the subjects' caries rates but unrelated to their age.

Ce rapport final sur l'efficacité anticariogène d'un dentifrice au fluorure stanneux-pyrophosphate de calcium-pyrophosphate stanneux, révèle des réductions constantes dans le développement de nouvelles surfaces et dents cariées, absentes ou obturées à intervalles de 10, 18 et 30 mois. Les réductions pour les surfaces vont de 39 à 42 p.c.; pour les dents, de 34 à 44 p.c. Les résultats sont proportionnels à la progression de la carie des sujets, mais sans rapport avec leur âge.

The anticariogenic value of fluorides is well known and accepted by all representative health bodies. They are no substitute for good nutrition, dietary regulation, good oral hygiene and early regular dental treatment; fluorides do, however, supplement and enhance caries control on a community basis.

Fluoridation of communal water supplies is still the most practical means of providing fluoride. Individual prescription is sometimes recommended when effective fluoride levels are absent from the potable water. Public acceptance of prescribed fluoride supplements has, however, been slow. Direct application of fluoride preparations to the tooth surfaces has met with more favourable response. No doubt, this has been aided by the introduction of effective stannous fluoride dentifrices and by the realization that benefits of fluoride ingestion and application are cumulative.¹⁻⁵ The resulting public acceptance of topical applications is reflected by a drop in community caries attack rates.⁶

This paper describes a further investigation of a stannous fluoride dentifrice and the effect of its unsupervised use by a school population. In previous clinical studies of this nature, subjects of all ages were either grouped as school children or adults.^{5, 7-12} Our study was designed so as to determine any difference in effect between specific age groups.

Study design

Details of the design, methods, and 10 and 18 month results were published in a preliminary report.¹³

In essence, 1,700 children were carefully chosen to provide a socio-economic cross section of the community and yield two samples of elementary school age extremes: Grades 1 and 2, and Grade 7. The children within the two age groups were randomly assigned to the test and control dentifrices according to accepted clinical study methods.¹² The test dentifrice (Crest) contained stannous fluoride, calcium pyrophosphate and stannous pyrophosphate. The control dentifrice lacked the tin compounds but was otherwise identical.

The study was "double-blind." Participants were free to use the distributed dentifrice at their own dis-

Table 1

Dentifrice	Group	N	Sex		Dental age	Mean findings						
			M	F		S.E.	DMF (T)	S.E.	DMF (S)	S.E.	Oral hygiene	S.E.
An initial examination :												
Control	1	441	228	213	6.78	(.17)	2.51	(.08)	4.69	(.21)	1.63	(.04)
Test	1	461	257	204	6.99	(.17)	2.69	(.08)	5.06	(.20)	1.58	(.03)
Control	2	403	200	203	25.17	(.18)	12.03	(.27)	23.97	(.66)	1.60	(.03)
Test	2	408	207	201	25.12	(.18)	12.21	(.28)	24.55	(.67)	1.61	(.03)
At final examination (30 months) :												
Control	1	261	136	125	6.77	(.22)	2.51	(.11)	4.51	(.24)	1.66	(.05)
Test	1	251	142	109	6.66	(.24)	2.53	(.11)	4.68	(.25)	1.65	(.05)
Control	2	268	134	134	24.96	(.22)	11.83	(.32)	23.46	(.78)	1.62	(.04)
Test	2	260	126	134	24.94	(.24)	11.85	(.34)	23.45	(.75)	1.65	(.04)

Caries increments

Table 2

Dentifrice	Group	N	Mean increments for 10 months				N	Mean increments for 18 months				N	Mean increments for 30 months			
			DMF (T)	S.E.	DMF (S)	S.E.		DMF (T)	S.E.	DMF (S)	S.E.		DMF (T)	S.E.	DMF (S)	S.E.
Control	1	328	0.91	(.07)	1.99	(.13)	291	1.32	(.10)	3.11	(.18)	261	2.62	(.14)	6.36	(.29)
Test	1	334	0.58	(.07)	1.21	(.12)	294	0.84	(.08)	1.80	(.15)	251	1.69	(.12)	3.79	(.22)
Per cent reduction			36.3		39.2			36.4		42.1			35.5		40.4	
Control	2	320	1.94	(.12)	3.72	(.23)	285	3.39	(.17)	8.26	(.35)	268	5.09	(.20)	15.04	(.50)
Test	2	322	1.50	(.12)	2.45	(.22)	282	2.21	(.15)	5.06	(.30)	260	3.19	(.19)	8.50	(.41)
Per cent reduction			22.7		34.1			34.8		38.7			37.3		43.5	

cretion. All examinations and radiographic interpretations were performed by the same examiner. Natural fluoride in the communal water supply was negligible (0.1 ppm).

Caries examinations were conducted at 10, 18 and 30 month intervals. An educational program was conducted during the first 18 months of the study and then terminated.

Results

Table 1 shows the balance of the subjects at the commencement and conclusion of the study. The dental age is given as the number of permanent teeth erupted at the beginning of the study. DMF(T) and DMF(S) values are means.

At the initial examination, there were no significant differences between control and experimental groups at both age levels. This balance was maintained throughout the study period.

Table 2 shows the mean caries increment for each sub-group in each age group. The reductions in DMF(S) increment in group 1 were 39.2, 42.1 and 40.4 per cent for the 10, 18 and 30 month periods respectively. The reductions in DMF(T) increment were 36.3,

36.4 and 35.5 per cent for the same periods respectively. Comparable increment reductions in group 2 by DMF(S) were 34.1, 38.7 and 43.5 per cent. By DMF(T) the reductions were 22.7, 34.8 and 37.3 per cent.

The reductions in caries increment by tooth count and surface count are significant ($\alpha \leq .05$) in both groups. The high degree of consistency in the caries increment results should be noted.

Table 2 demonstrates further that the conclusions drawn and differences found after 10 months did not change. Subsequent examinations added little to the study other than corroboration of the 10 month results.

Discussion

The means and per cent reductions based on DMF(T) and DMF(S) increments for the basic study cell after 30 months are given in Table 2. The analysis is shown in Table 3.

Analysis of 30 month data from Table 2

Table 3

	Z		Significant 0.05	
	DMF (T)	DMF (S)	DMF (T)	DMF (S)
Dentifrice	8.53	12.26	yes	yes
Age group	11.90	18.02	yes	yes
Dentifrice $\times$ age group	2.88	5.32	yes	yes

Analysis of dentifrice and age group interaction

Table 4

	Dentifrice		Difference	% reduction
	Control	Test		
DMF (T) :				
Group 1	2.62	1.69	0.93	35.5
Group 2	5.09	3.19	1.90	37.3
Difference	2.47	1.50		
DMF (S) :				
Group 1	6.36	3.79	2.57	40.4
Group 2	15.04	8.50	6.54	43.5
Difference	8.68	4.71		

Significance of differences between test and control groups and between age groups

Table 5

	Z		Significant 0.05	
	DMF (T)	DMF (S)	DMF (T)	DMF (S)
Group 1, test vs control	5.04	7.13	yes	yes
Group 2, test vs control	6.86	10.05	yes	yes
Group 1 vs group 2, control	9.90	14.91	yes	yes
Group 1 vs group 2, test	6.81	10.17	yes	yes

Relative difference in per cent caries reductions in the two age groups

Table 6

	10 months	18 months	30 months
DMF (T):			
Group 1	36.3	36.4	35.5
Group 2	22.7	34.8	37.3
DMF (S):			
Group 1	39.2	42.1	40.4
Group 2	34.1	38.7	43.5

The dentifrice $\times$ age group interaction is significant. Consequently, the difference in caries increment between test and control dentifrices is not the same for both age groups, and the difference between age groups is not the same for both dentifrices. This is demonstrated in Table 4.

The significant difference between test and control dentifrices and the significant difference for each age group for each dentifrice is demonstrated in Table 5.

The significant interactions and the four significant contrasts show that the test dentifrice reduced caries significantly in both age groups. The difference was more pronounced in group 2. This group also had a higher caries rate than group 1, but the difference between the rates of the two groups is less with the test dentifrice than with the control dentifrice.

Table 6 indicates that the relative difference in terms of per cent reductions is similar for the two age groups.

Table 7 reveals that the differences between DMF(T) and DMF(S) per cent reductions in the two age groups are not statistically significant.

In summary, we were dealing with two age groups with disparate caries rates. The test and control dentifrices used by both groups yielded diverse reductions but the percentage reductions observed in the two groups were very similar. This strongly suggests that the effect of the test dentifrice was proportional to, rather than independent of, the magnitude of the caries rate.

Summary and conclusions

The efficacy of a stannous fluoride-calcium pyrophosphate-stannous pyrophosphate dentifrice was tested in a double-blind study in two specific age groups. A concurrent educational program in oral hygiene was conducted in the classrooms, but no effort was made to enforce oral hygiene practices.

DMF(S) increments in Grade 1 and 2 children declined by 39.2, 42.1 and 40.4 per cent after 10, 18 and 30 month intervals. Grade 7 children had reductions of 34.1, 38.7 and 43.5 per cent at similar intervals. These reductions are significant and must be attributed to the dentifrice used by the experimental groups.

The effect of this dentifrice is not dependent upon the subjects' age but appears to be proportional to the magnitude of the caries prevalence.

Significance of the differences in the per cent caries reductions in the two age groups

Table 7

	Z	
	DMF (T)	DMF (S)
30 month data	0.25	0.56

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Les soins dentaires au Québec: Méthodologie; caractéristiques de l'échantillonnage, fréquence des visites au cabinet dentaire

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On a demandé aux omnipraticiens québécois de remplir un questionnaire sur les cinq premiers patients à qui ils devraient passer un examen à partir d'une date définie. Trente pour cent ont répondu. La première partie de cet échantillonnage révèle que la population recourt plus aux services du dentiste lorsqu'elle en est bien pourvue; que les patients d'origine anglaise ont moins tendance à espacer les rendez-vous chez le dentiste et que les personnes dont l'instruction est plus avancée et dont le revenu est plus élevé fréquentent plus le dentiste.

Affluent people in Quebec seek more dental care, Anglo-Canadians visit their dentists more frequently, and Quebecers with a more advanced education and higher incomes see the dentist more readily. These are the preliminary results of a survey of general practitioners in Quebec. The dentists were invited to complete questionnaires on the first five patients they examined after a given starting date. They returned 1,657 questionnaires — 30 per cent of the 5,568 that were circulated. Anglophone dentists returned 460 (36 per cent) of 1,296 questionnaires. Francophone respondents turned in 1,197 (28 per cent) of 4,272 questionnaires. Further reports in this series will deal with dental needs in general and dental needs of Quebecers under the age of 18.

La profession dentaire est bien au fait que la santé buccale de la population québécoise prise dans son ensemble est mal-en-point et que le recours aux soins est nettement insuffisant. Cette évaluation, sans doute fondée et située en deça de la réalité, n'en reste pas moins quelque peu empirique, en ce sens qu'elle ne se base pas sur des études épidémiologiques menées chez toutes les couches de la société à la grandeur de la province.

On possède déjà certaines statistiques glanées entre autres par la Ligue d'hygiène dentaire, la Division dentaire du Ministère provincial de la Santé et le Service de Santé de l'Université de Montréal. Pour valables qu'elles soient, ces données sont fragmentaires et ne peuvent servir à établir l'indice des besoins dentaires de toute la population.

Cette situation a incité le Département de dentisterie préventive de la Faculté de Chirurgie Dentaire de

l'Université de Montréal à mener au cours de 1968 une enquête afin de déterminer les besoins dentaires de la population de la province de Québec tels que vus par les omnipraticiens, le recours aux soins du dentiste, en tenant compte de divers facteurs tels le sexe, l'âge, les régions, l'origine ethnique, le degré de scolarité et le revenu.

Méthodologie

La pénurie de statistiques en ce domaine et le pressant besoin d'y remédier militait en faveur du choix d'une méthodologie permettant de récolter ces informations dans un laps de temps relativement court. C'est pourquoi le Département a opté pour une formule comparable à celle utilisée en 1952 et 1965¹⁻⁸ par le "Bureau of Economic Research and Statistics" de l'Association Dentaire Américaine.

Rappelons que lors de ces sondages, l'ADA faisait parvenir à des praticiens, choisis selon un échantillonnage rigoureux, des formulaires comprenant deux séries de questions. La première portait sur les soins que le dentiste jugeait nécessaires et la deuxième sur les caractéristiques individuelles, sociales et économiques des patients.

Nous nous sommes astreints à la même méthodologie et nos questionnaires étaient très semblables à ceux de l'enquête de 1965 du "Bureau of Economic Research and Statistics" de l'ADA. Il y aurait même eu avantage à éliminer certaines questions; mais nous avons cru bon de ne pas le faire afin de mieux établir des comparaisons avec les données américaines.

Cinq ensembles de questionnaires ont été postés à 1,392 dentistes omnipraticiens du Québec, dont 324 d'expression anglaise et 1,068 d'expression française. On a donc retranché de la liste d'envoi, à partir de l'annuaire du Collège des Chirurgiens-Dentistes: les spécialistes, les professeurs à temps plein des universités McGill et de Montréal, les dentistes au service à temps complet de la Division provinciale de l'hygiène dentaire et des Services de Santé des villes de Montréal et de Québec, les dentistes appartenant au Corps Dentaire Royal Canadien.

Les destinataires étaient priés de répondre aux 37 questions de chacun des cinq questionnaires suivant une méthodologie explicitée dans une "feuille d'instruction". Ainsi on leur a demandé de ne commencer à

remplir les questionnaires qu'à compter du mardi qui suivait leur réception; ils devaient s'en tenir consécutivement aux cinq premiers patients à qui ils devaient passer un examen (donc des patients qui étaient à leur premier rendez-vous pour la présente série de traitements).

Mille sept cents questionnaires ont été retournés, dont 43 ont dû être rejetés, faute de renseignements indispensables. C'est donc dire que 29.76 p.c. des dentistes à qui l'on a fait appel ont contribué à l'enquête. Si l'on tient compte du temps requis de la part du dentiste pour remplir les questionnaires, la réponse est plus que satisfaisante. Elle témoigne d'un effort remarquable surtout si on la compare à celle de l'enquête américaine de 1965, alors que 1,500 dentistes sur 20,000 (7.5 p.c.) avaient répondu, (étant donné le grand nombre de dentistes américains, on avait limité l'échantillonnage à 20,000). Il faut ajouter aussi que ces derniers devaient remplir huit et non cinq questionnaires.

On se doit de signaler tout de suite que les données recueillies font état des besoins dentaires des personnes qui se rendent au cabinet du dentiste, et non nécessairement de toute la population. Par contre, il ne faut pas attacher trop d'importance à cette réserve, puisque 31.6 p.c. des patients examinés n'étaient pas allés chez le dentiste depuis au moins trois ans.

Régions adoptées — En face de la nécessité de diviser la province par régions, il a paru opportun d'opter pour la formule employée dans le "Survey of Markets 1967-68" du *Financial Post*.

Répartition des questionnaires expédiés et reçus suivant le mode d'expression des dentistes Tableau 1

Langue	Questionnaires expédiés	Questionnaires reçus	%
Anglaise	1,296	460	35.49
Française	4,272	1,197	28.02
Total	5,568	1,657	29.76

Cette étude propose les 10 régions suivantes: Côte-Nord-Nouveau-Québec, Rive-Sud-Gaspésie, Saguenay-Lac-St-Jean, Québec, Trois-Rivières, Cantons-de-l'Est, Montréal, Montréal-métropolitain, Hull-Laurentides (ouest), Abitibi-Témiscamingue.

Caractéristiques de l'échantillonnage

Réponse aux questionnaires suivant le mode d'expression des dentistes — La réponse réservée aux questionnaires diffère d'une façon significative suivant le mode d'expression. Le tableau 1 fait voir que proportionnellement les dentistes d'expression anglaise ont davantage participé à l'enquête que ceux d'expression française (Tableau 1).

Distribution de la population, des patients et des dentistes par région. Rapport population/dentiste par région — Le pourcentage des patients et de la population de chaque région est en général assez rapproché (Tableau 2); le plus grand écart (16 p.c.) apparaît à la région 8 (Montréal-métropolitain). Le graphique (Fig 1) illustre bien la comparaison. Les données manquent pour la Côte-Nord-Nouveau-Québec où réside 1.9 p.c. de la population québécoise. Aucun questionnaire n'a été retourné.

A remarquer, dans ce graphique, que le pourcentage des patients d'une région est très voisin de celui des dentistes établis dans ce même secteur. Autrement dit, la population recourt davantage aux soins des dentistes lorsqu'elle en est bien pourvue.

Le rapport population/dentiste marque une nette disparité d'une région à l'autre, les extrêmes allant de 2,500 personnes par dentiste dans le Montréal-métropolitain à 9,200 pour l'Abitibi-Témiscamingue, à 9,300 pour la Côte-Nord-Nouveau-Québec, et 9,400 pour la Gaspésie-Rive-Sud.

Distribution des patients suivant l'âge et le sexe — Les patients du sexe féminin forment 55.1 p.c. de l'ensemble des personnes de tous âges comprises dans l'enquête alors que 50.1 p.c. de la population

Distribution de la population, des patients et des dentistes par région. Rapport population/dentistes par région

Tableau 2

Régions	Population		Patients		Dentistes par région		Population en rapport avec le nombre de dentistes (000)
	Nombre*	% V†	Nombre	% V	Nombre‡	% V	
1 Côte-Nord—Nouveau Québec	111.7	1.91	0	0	12	0.80	9.3
2 Gaspésie—Côte-Sud	386.4	6.60	57	3.44	41	2.68	9.4
3 Saguenay—Lac-St-Jean	268.1	4.58	72	4.35	43	2.81	6.2
4 Québec	708.6	12.10	143	8.63	149	9.75	4.8
5 Trois-Rivières	304.1	5.20	79	4.77	63	4.12	4.8
6 Cantons-de-l'Est	487.3	8.32	162	9.78	93	6.08	5.2
7 Montréal	858.3	14.66	135	8.15	150	9.82	5.7
8 Montréal—Métropolitain	2,352.7	40.19	931	56.19	928	60.73	2.5
9 Hull—Laurentides (ouest)	200.9	3.43	39	2.35	30	1.96	6.7
10 Abitibi—Témiscamingue	175.6	3.00	39	2.35	19	1.25	9.2
Total	5,854.0	100.00	1,657	100.00	1,528	100.00	

*Population (000) du Québec, 1er avril 1967. Survey of markets 1967/68. The Financial Post, p. 182.

†Pourcentage vertical.

‡Nombre de dentistes au 1er janvier 1967. Données du Collège des Chirurgiens-Dentistes de la province de Québec.

Québec



Régions et comtés du Québec

1 Côte-Nord-Nouveau-Québec
Saguenay

2 Rive-Sud-Gaspésie
Bonaventure
Gaspé
Îles-de-la-Madeleine
Kamouraska
L'Islet
Matapédia
Matane
Montmagny
Rimouski
Rivière-du-Loup
Temiscouata

3 Saguenay-Lac-St-Jean
Chicoutimi
Lac-St-Jean

4 Québec
Beauce
Bellechasse
Charlevoix
Dorchester
Lévis
Lotbinière
Montmorency
Québec
Portneuf

5 Trois-Rivières
Berthier
Champlain
Maskinonge
Nicolet
St-Maurice

6 Cantons-de-l'Est
Arthabaska
Brome
Compton
Drummond
Frontenac
Mégantic
Richmond
Shefford
Sherbrooke
Stanstead
Wolfe

7 Montréal
Argenteuil
Bagot
Beauharnois
Châteauguay
Deux-Montagnes
Huntingdon
Iberville
Joliette

Labelle
Laprairie
L'Assomption
Missisquoi
Montcalm
Napierville
Richelieu
Rouville
Saint-Hyacinthe
Saint-Jean
Soulanges
Terrebonne
Vaudreuil
Verchères
Yamaska

8 Montréal-Métropolitain
Île de Montréal
Île-Jésus
Co. Chambly

9 Hull-Laurentides (ouest)
Hull-Gatineau
Papineau
Pontiac

10 Abitibi-Temiscamingue

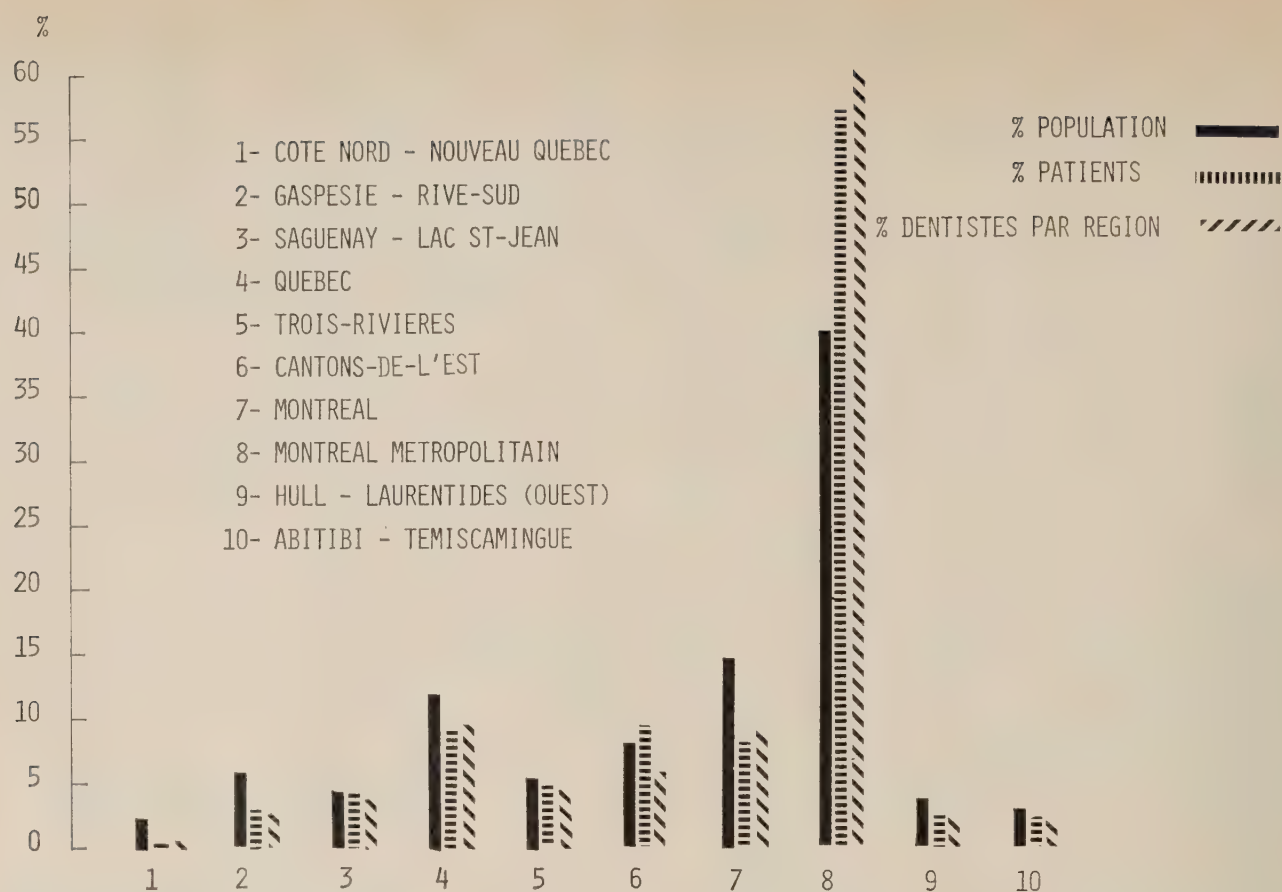


Fig 1 Distribution de la population, des patients des dentistes par région.

était constitué par le sexe féminin en 1966 (Tableau 3).⁹ Dans l'étude américaine, l'élément féminin représentait une proportion de 52.9 p.c. Cette prédominance numérique du sexe féminin vaut pour tous les groupes d'âge à l'exception de celui de 65 ans et plus.

Il est remarquable que le pourcentage (vertical) des patients d'un sexe comme de l'autre est presque identique pour chaque groupe d'âge.

Distribution de la population et des patients suivant l'origine ethnique — Le tableau 4 démontre que, sur le plan des caractéristiques ethniques, la fréquentation des cabinets dentaires ne reflète pas le taux réel des divers groupes dans la population du Québec. On remarque que 62.8 p.c. des personnes d'expression française se retrouvent comme patients alors qu'ils

représentent 80.6 p.c. de la population. Par ailleurs l'élément anglais, qui ne forme que 10.8 p.c. de la population, fournit 23.7 p.c. des patients. Quant à ceux d'origine diverse, ils occupent une position intermédiaire.

Distribution de la population et des patients suivant les revenus — En regroupant les salariés accusant un revenu inférieur à \$6,000, on englobe 78.6 p.c. de la population; nous retrouvons cependant dans cette catégorie seulement 43.4 p.c. des patients (Tableau 5). Le graphique (Fig 2) indique avec clarté la dissimilitude entre la répartition de la population et celle des patients suivant le salaire, vu que les personnes à plus faible revenu fréquentent moins les cabinets dentaires. Dans la catégorie des gens gagnant de \$4,000 à \$5,999

Distribution des patients suivant l'âge et le sexe

Tableau 3

Groupes d'âge	Sexe féminin		Sexe masculin		Total	
	N	%	N	%	N	%
< 15	210	23.00	176	23.66	386	23.30
15-19	151	16.54	123	16.53	274	16.54
20-24	144	15.77	111	14.92	255	15.38
25-34	163	17.85	138	18.55	301	18.16
35-44	122	13.36	96	12.90	218	13.16
45-54	70	7.67	60	8.06	130	7.85
55-64	41	4.49	26	3.49	67	4.04
> 65	12	1.31	14	1.88	26	1.57
Total	913	100.00	744	100.00	1,657	100.00



Fig 2 Distribution de la population et des patients suivant les revenus.

l'écart est mince. C'est dans cette classe que l'on retrouve le plus de patients; sans doute parce qu'elle est constituée de personnes qui n'ont à subvenir qu'à leur propres besoins. (Il est bon de rappeler que, dans le cas des dépendants, on indiquait le salaire du chef de famille.)

On a constaté dans l'enquête américaine une tendance globale assez identique, avec cette différence que c'était les salariés de \$6,000 à \$9,999 (et non \$4,000 à \$5,999) qui constituaient le plus fort contingent de patients.

La fréquence des visites au cabinet du dentiste en fonction du sexe, de l'origine ethnique, du degré de scolarité et du revenu

Distribution des patients suivant le sexe et le temps écoulé depuis la dernière visite chez le dentiste — Seulement 10.2 p.c. de la population étudiée a rendu visite à son dentiste depuis moins de six mois (Tableau 6, Fig 3); pour ce même groupe le taux était de 15.9 p.c. dans l'étude américaine. La somme des personnes comprises dans les catégories de 11 mois et moins se chiffre à 30 p.c.; cet ensemble de patients représenterait vraisemblablement ceux qui ont été sensibilisés aux conseils mis de l'avant par la profession sur les avantages des rendez-vous bi-annuels. Sur ce point l'on constate une nette différence avec les Américains; chez eux, cette classe s'élève à 52.9 p.c.

Près du quart des patients, soit 23.3 p.c. comparativement à 11.9 p.c. pour les Américains, ne s'était pas rendu chez le dentiste depuis plus de trois ans.

Distribution de la population et des patients Tableau 4 suivant l'origine ethnique

Origine	Population		Patients	
	Nombre*	%	Nombre	%
Française	4,241,354	80.6	1,041	62.82
Anglaise	567,057	10.8	392	23.66
Autres	341,639	8.6	224	13.52
Total	5,150,050	100.0	1,657	100.00

*Recensement du Canada, 1966. Bureau Fédéral de la statistique.

Distribution de la population et des patients Tableau 5 suivant les revenus

Revenus (en dollars)	Population		Patients	
	Nombre*	%	Nombre	%
< 2,000	180,098	12.14	37	2.46
2,000-3,999	536,234	36.16	206	13.70
4,000-5,999	449,261	30.29	410	27.26
6,000-7,999	184,248	12.42	297	19.75
8,000-9,999	62,412	4.21	218	14.49
> 10,000	70,838	4.78	336	22.34
Total	1,483,091	100.00	1,504	100.00

*Taxpayers by income, 1965. Survey of markets 1967/68. The Financial Post, p. 181.

A noter que le comportement des deux sexes est presque identique, et ce, dans les deux enquêtes.

Distribution des patients suivant l'origine ethnique et le temps écoulé depuis la dernière visite chez le den-

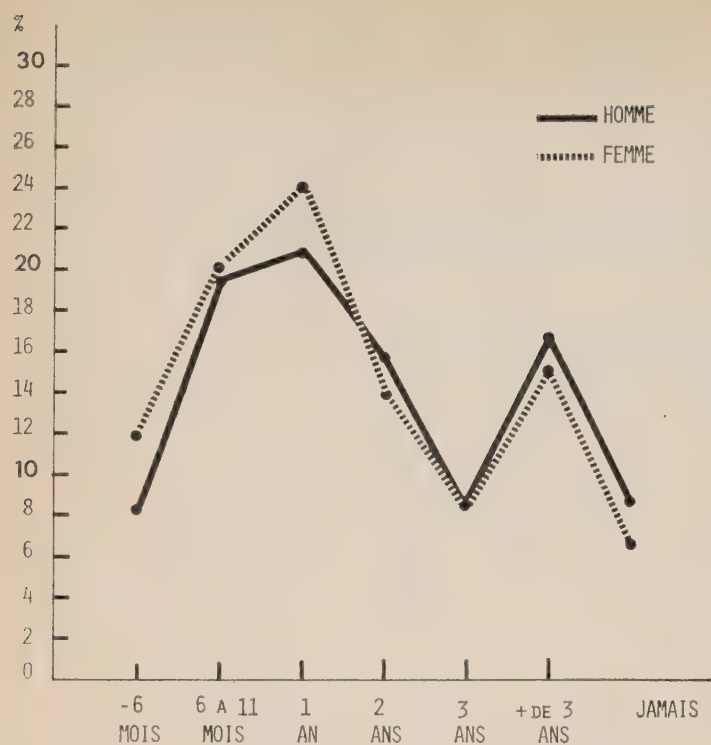


Fig 3 Distribution des patients suivant le sexe et le temps écoulé depuis la dernière visite chez le dentiste.

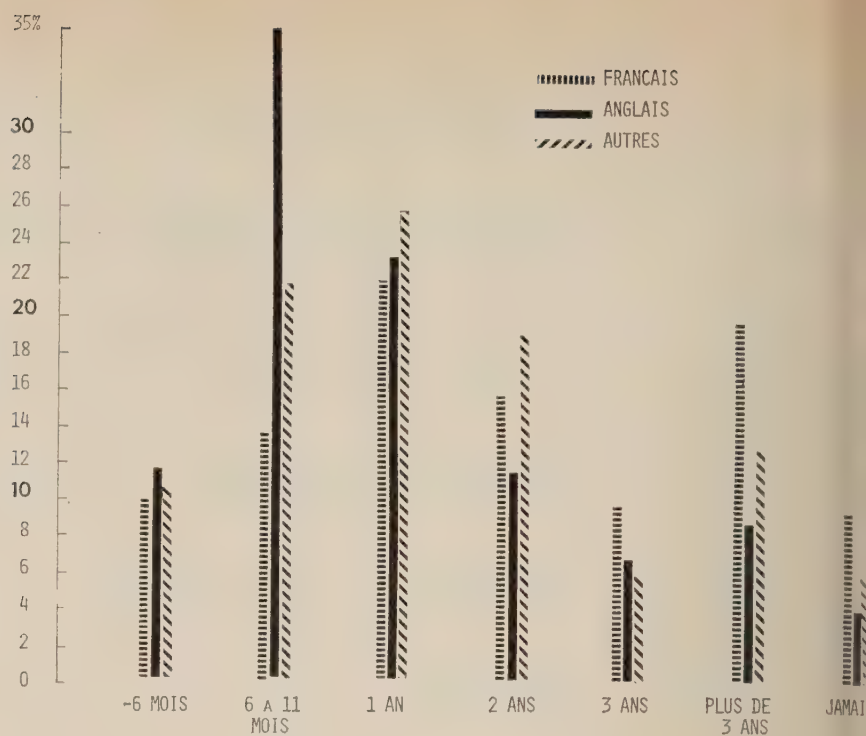


Fig 4 Distribution des patients suivant l'origine ethnique et le temps écoulé depuis la dernière visite chez le dentiste.

tiste — La fréquentation à des intervalles de moins de six mois est comparable chez les divers groupes ethniques (Tableau 7, Fig 4).

En général les patients d'origine anglaise espacent moins les rendez-vous chez le dentiste que ceux

d'origine française. Quant à la position des personnes d'autres races, elle est mitoyenne. En effet le temps écoulé depuis la dernière visite était de un an et moins chez 46.8 p.c. des Canadiens français, 69.9 p.c. des Canadiens anglais et 57.2 p.c. des Canadiens d'origine

Distribution des patients suivant le sexe et le temps écoulé depuis la dernière visite chez le dentiste

Tableau 6

Temps écoulé depuis la dernière visite	Sexe masculin	%	Sexe féminin	%	Total	%
< 6 mois	61	8.22	107	11.81	168	10.19
6 à 11 mois	145	19.54	182	20.09	327	19.84
1 an	170	22.91	218	24.06	388	23.54
2 ans	117	15.77	127	14.02	244	14.81
3 ans	61	8.22	76	8.39	137	8.31
> 3 ans	124	16.71	137	15.12	261	15.84
N'est jamais allé chez le dentiste	64	8.63	59	6.51	123	7.46
Total	742	100.00	906	100.00	1,648	100.00

Distribution des patients suivant l'origine ethnique et le temps écoulé depuis la dernière visite chez le dentiste

Tableau 7

Temps écoulé depuis la dernière visite	Origine ethnique					
	Française	%	Anglaise	%	Autres	%
< 6 mois	101	9.76	44	11.31	23	10.27
6 à 11 mois	140	13.53	139	35.73	48	21.43
1 an	243	23.48	89	22.88	57	25.45
2 ans	158	15.27	44	11.31	42	18.75
3 ans	99	9.57	25	6.43	13	5.80
> 3 ans	200	19.32	33	8.48	28	12.50
N'est jamais allé chez le dentiste	94	9.08	15	3.86	13	5.80
Total	1,035	100.00	389	100.00	224	100.00

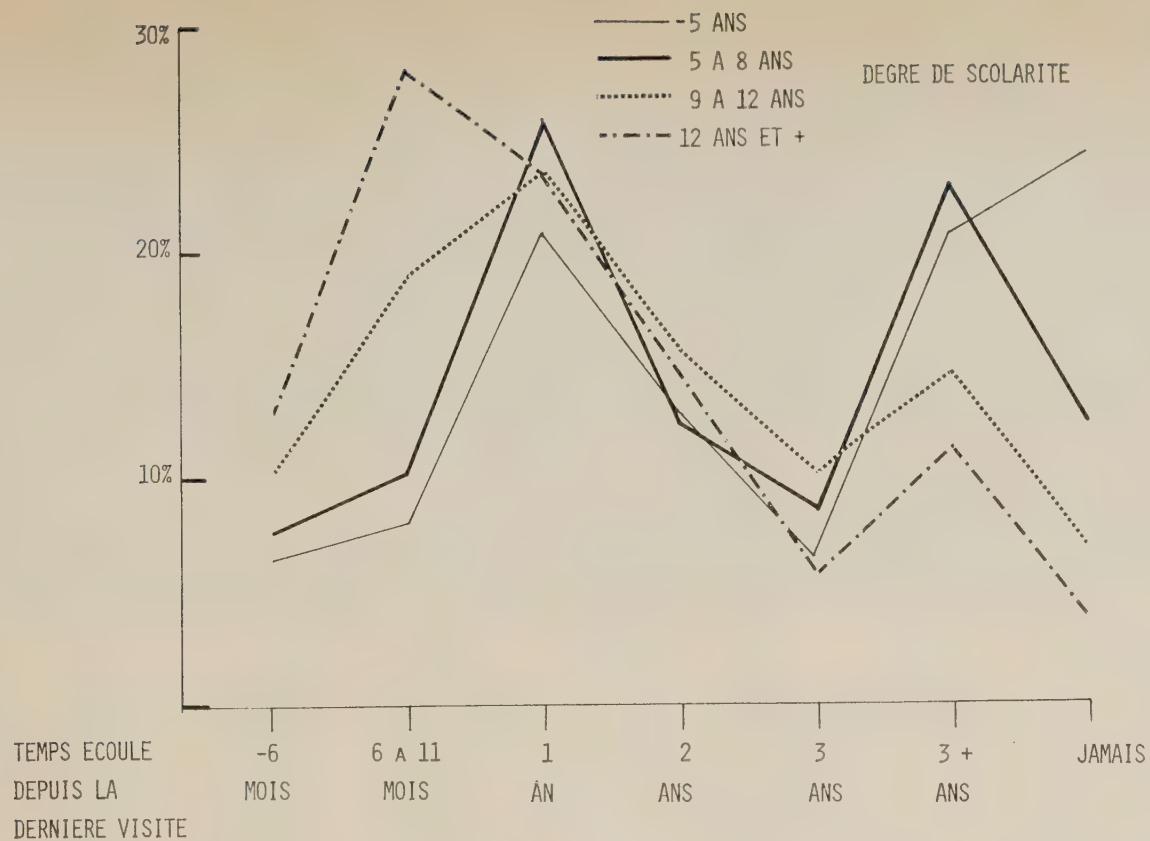


Fig 5 Distribution des patients suivant le temps écoulé depuis la dernière visite chez le dentiste et le degré de scolarité.

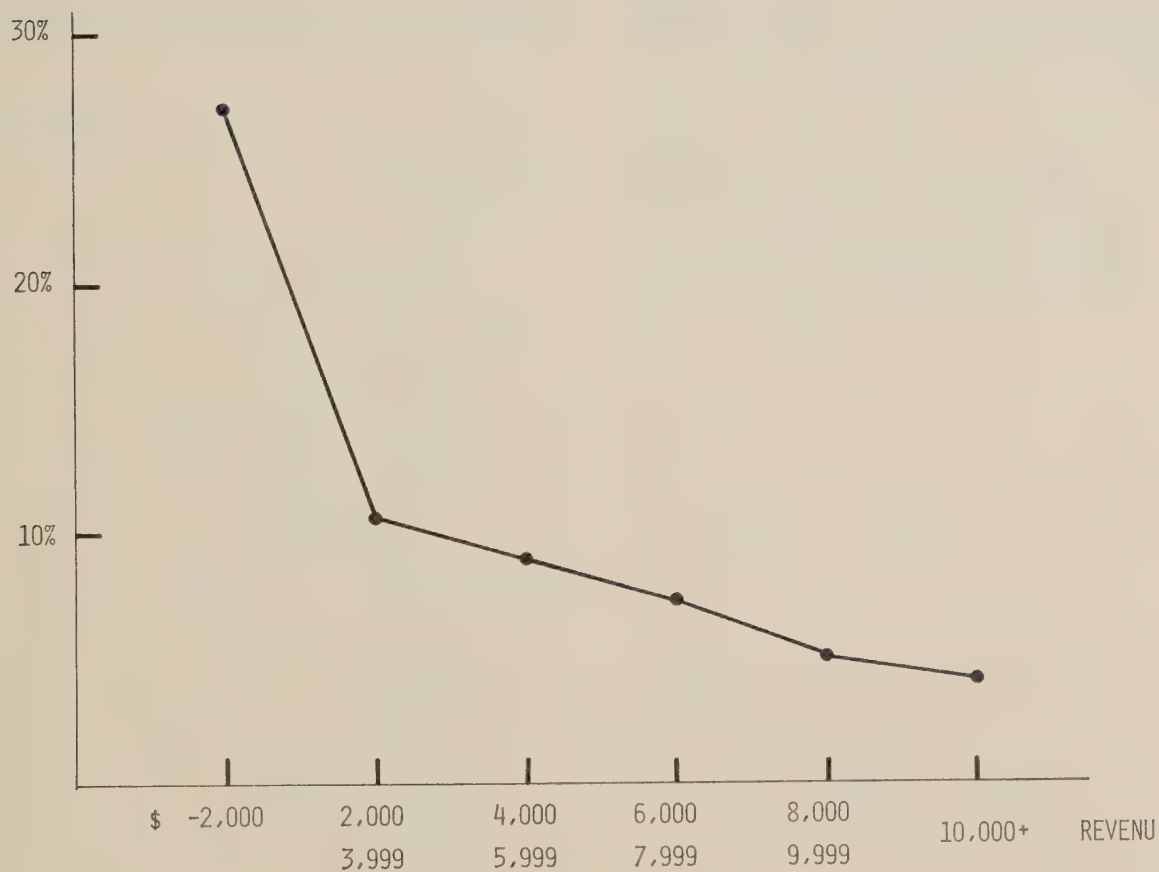


Fig 6 Distribution des patients qui effectuaient leur première visite chez le dentiste en rapport avec le revenu.

Distribution des patients suivant le temps écoulé depuis la dernière visite chez le dentiste et le degré de scolarité Tableau 8

Temps écoulé depuis la dernière visite	Nombre d'années de scolarité			
	< 5 ans %	5-8 ans %	9-12 ans %	> 12 ans %
< 6 mois	6.45	7.65	10.03	12.78
6 à 11 mois	8.06	10.09	18.98	28.19
1 an	20.97	25.99	23.46	23.57
2 ans	12.90	12.54	15.59	14.76
3 ans	6.45	8.56	10.19	5.73
> 3 ans	20.97	22.94	14.81	11.23
N'est jamais allé chez le dentiste	24.19	12.23	6.94	3.74
Total	100.00	100.00	100.00	100.00

Le Rapport Raynaud¹⁰ a déjà indiqué qu'au Québec il existait, à scolarité égale, des différences de salaire significatives chez les diverses entités ethniques. Le revenu des Québécois d'origine britannique, par exemple, est plus élevé que celui des Québécois d'extraction française qui ont reçu la même formation. Il y a lieu de tenir compte de ce dernier facteur dans l'interprétation des données sur la fréquentation du dentiste en rapport avec l'origine ethnique.

Il est intéressant de noter que la proportion des patients qui se rendent chez le dentiste une fois annuellement est pratiquement la même, quel que soit le paramètre étudié: sexe (22.9 p.c. - 24.1 p.c.), origine ethnique (22.9 p.c. à 25.5 p.c.), degré de scolarité (21 p.c. à 26 p.c.) ou revenu (de 21.6 p.c. à 25.4 p.c.).

Distribution des patients suivant le revenu et le temps écoulé depuis la dernière visite chez le dentiste Tableau 9

Temps écoulé depuis la dernière visite chez le dentiste	Revenu					
	< \$2,000	\$2,000 à 3,999	\$4,000 à 5,999	\$6,000 à 7,999	\$8,000 à 9,999	> \$10,000
< 6 mois	2.70	8.25	6.62	11.11	10.14	15.62
6 à 11 mois	8.11	9.71	15.69	15.49	24.88	32.13
1 an	21.62	21.84	24.02	25.25	25.35	24.62
2 ans	16.22	16.50	14.46	14.14	16.13	10.51
3 ans	5.41	9.22	9.56	11.45	7.83	4.20
> 3 ans	18.92	23.79	20.59	15.15	10.60	8.71
N'est jamais allé chez le dentiste	27.03	10.68	9.07	7.41	5.07	4.20
Total	100.00	100.00	100.00	100.00	100.00	100.00

diverse; inversement, 28.4 p.c. des Canadiens français, 12.3 p.c. des Canadiens anglais et 18.3 p.c. des Canadiens d'origine diverse n'avaient pas fréquenté le dentiste depuis plus de trois ans.

Distribution des patients suivant le temps écoulé depuis la dernière visite chez le dentiste et le degré de scolarité — L'ensemble du tableau 8 (Fig 5) marque une nette tendance à recourir avec plus de fréquence aux soins du dentiste de la part des personnes dont l'instruction est plus avancée. Ainsi cette assertion est mise en évidence par le fait que ce sont, par ordre décroissant, les patients dont le degré de scolarité est de 12 ans et plus, 9 à 12 ans, 5 à 8 ans et moins de 5 ans, qui se situent dans la catégorie des personnes qui ont rendu visite au dentiste depuis 6 à 11 mois. Seulement 3.7 p.c. des patients qui comptaient moins de 12 années de scolarité en étaient à leur première visite chez le dentiste alors que ce pourcentage était de 24.2 p.c. chez ceux qui avaient étudié moins de cinq ans.

Distribution des patients suivant le revenu et le temps écoulé depuis la dernière visite chez le dentiste — La fréquence des visites chez le dentiste est nettement plus grande chez les patients dont le revenu est élevé, tel qu'en fait foi le tableau 9 (Fig 6). De même la courbe du pourcentage des personnes qui en étaient à leur première visite chez le dentiste, en rapport avec le revenu, l'illustre bien.

On constate donc que le recours aux traitements dentaires augmente avec le revenu, observation qui a été relevée aussi dans l'enquête américaine.

Le docteur Simard est professeur agrégé, et le docteur Lusier est doyen et directeur du Département de dentisterie préventive, Faculté de Chirurgie Dentaire, Université de Montréal, C P 6128, Montréal.

A suivre: "Les soins dentaires au Québec: Besoins dentaires en général; besoins dentaires des personnes de 18 ans et moins; conclusion".

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- 2 Idem. Survey of needs for dental care. II. Dental needs according to age and sex of patients. J Amer Dent Ass 73:1355, 1966.
- 3 Idem. Survey of needs for dental care. III. Dental needs according to length of time since last visit to a dentist. J Amer Dent Ass 74:145, 1967.
- 4 Idem. Survey of needs for dental care. IV. Dental needs according to region of the country. J Amer Dent Ass 74:489, 1967.
- 5 Idem. Survey of needs for dental care. V. Dental needs according to income. J Amer Dent Ass 74:789, 1967.
- 6 Idem. Survey of needs for dental care. VI. Dental needs according to education. J Amer Dent Ass 74:1034, 1967.
- 7 Idem. Survey of needs for dental care. VII. Dental needs according to size of city. J Amer Dent Ass 74:1291, 1967.
- 8 Idem. Survey of needs for dental care. VIII. Summary and comparison with previous surveys. J Amer Dent Ass 74:1561, 1967.
- 9 Canada. Bureau Fédéral de la Statistique. Recensement du Canada, 1966. Rapports de masculinité. Catalogue No 92-609. Vol 1 (1-9). Décembre 1967.
- 10 Raynaud, A., Marion, G. et Béland, R. La répartition des revenus selon les groupes ethniques au Canada, 1966. (Canada. Rapport de la Commission Royale d'Enquête sur le Bilinguisme et le Biculturalisme. Livre III. Le monde du travail.) Sous presse.

Winnipeg manifesto

The Canadian Dental Association has just undergone the most extensive overhaul in the 68 years of its existence. Ratification of the new by-laws by the national convention in Winnipeg marks the consummation of two years of conscientious labour on the part of the Association's constituent arms as well as countless individual dentists. The negotiations were arduous, the issues were sometimes contentious, but basic democratic processes prevailed all the way and every effort was made to make the new by-laws a vital expression of the majority of the dentists of Canada. The result is an instrument, fashioned out of wisdom and good judgement and devised with tolerance and goodwill, that should serve the best interests of all concerned.

Though the new framework offers the individual dentist more control and a better chance for self-expression, it also requires of him increased responsibility, more work and certainly more expense. More responsibility undoubtedly means more meetings, and more frequent meetings demand more time and personal sacrifice, but our new-found solidarity and sense of purpose should be worth it all.

Nevertheless, it would be folly to assume that all our problems are now resolved. Nothing could be further from the truth. Certainly no one should expect perfection from the new by-laws. All by-laws are subject to inherent faults and require revision from time to time, and ours are not likely to prove an exception. But they are always amenable to amendment so as to make them of maximum service to the profession.

Further changes may indeed be necessary sooner than we may think. Sitting on our doorstep are the reports of the McRuer Commission and the Ontario Committee on the Healing Arts. Although of primary concern to Ontario dentists, their proposals are bound to have far-reaching effects on dentistry throughout Canada. Both documents call for complete severance of existing links between licensing bodies and professional associations. Should this come about, the latter would lose their main source of fiscal support and would be forced to look elsewhere for the money they require.

The dental profession in at least one province is reportedly examining the possibility of separating the licence fee from dues for membership in the provincial and national associations. Membership, under such an arrangement, would then be purely voluntary. In that event conjoint membership in the national and provincial associations would seem imperative in order to strengthen organized dentistry at both levels and eliminate competition for the individual dentist's allegiance. Further modification of CDA by-laws will then be necessary to accommodate provincial bodies that wish to adhere to the present licence-with-membership arrangement and others that may separate these functions by choice or in response to statutory change.

This is an important issue whose outcome may well determine what happens to all of us. The greatest immediate contribution that the dentists of Canada can therefore make is to seek from their CDA governors a clear explanation of the advantages and disadvantages of each option. Then, when they are in possession of all the facts, they should make their choice known so that the governors may act accordingly and for the best interests of dentistry.

Choses simples

Il ne faut pas que le Droit à la Santé constitue une nouvelle "aliénation" source de faiblesse et de perte de responsabilité pour l'homme.

Il faut considérer ce Droit en fonction de l'individu concerné. Nous savons que tout homme bien portant est un malade potentiel mais, si cet homme bien portant ne tente plus lui-même et en premier lieu (ce qui est conforme à la nature même de la vie) de "réactionner", de réagir, bref de "se défendre" par ses propres moyens, par sa volonté, s'il devient veule et cherche la couverture de la Société au moindre signe de défaillance physique, dans trois générations au plus, il n'aura plus d'élan de vie puisqu'il n'aura plus ni nerfs ni muscles, ceux-ci étant deshabitués du combat, qui est dans la nature de l'homme, qui le fortifie et lui permet de croire en lui. Donc, disions-nous "considérer ce Droit en fonction de l'individu".

Oui l'enfant, le vieillard, l'handicapé physique, l'homme diminué pour n'importe quelle raison doivent avoir droit à la solidarité de la Société.

Par contre tous ceux qui, dans la hiérarchie sociale ont atteint un certain niveau, doivent trouver eux-mêmes les ressources nécessaires pour faire face à un déséquilibre physique passager.

Les modalités de cette modulation dans la couverture sociale sont à définir mais il faut que tout le monde: Pouvoirs Publics, Corps Médical, Syndicats, Dirigeants de Mutuelles, Ayant droits aient le courage une bonne fois d'admettre que les raisons qui en 1945 conduisaient l'Etat à vouloir une couverture à 80 p.c. et pour tous, du risque maladie (tous risques compris) sont nettement moins contraignantes. (Les anciens Présidents de la Commission de Sécurité sociale l'ont dit avant moi.)

Couverture du "gros risque" et pour tous. Oui! Pour le reste, c'est à voir avec tous les intéressés.

Corriger les inégalités infligées aux humains par la Nature aveugle, oui mais vouloir, pour la simple satisfaction de l'esprit, un égalitarisme sans nuances devient aberrant si cet égalitarisme devient un dogme et si ce dogme élevé à la hauteur d'une institution (comme ils le sont tous d'ailleurs . . .) "casse la baraque" (passez-moi l'expression) en détruisant les équilibres économiques généraux de la nation.

Et ceci est vrai même si demain un Pouvoir plus sensible aux problèmes sociaux opérerait les transferts nécessaires.

Ceci est vrai car, comme l'écrivait un membre d'une Commission du Plan, "les besoins de Santé d'une population sont sans limites". Il n'est que de songer aux transplantations d'organes pour imaginer jusqu'où cela peut aller . . .

Nous ne sommes pas qualifiés sur le plan économique pour donner des conseils sur les choix à faire et nous n'aurons pas cette outrecuidance mais par contre et avec tous ceux, dans tous les milieux, qui le disent, nous pouvons nous permettre de dire trois choses:

1. Une Société civilisée a l'obligation de dégager les ressources nécessaires pour protéger les plus faibles.

2. Il faut à tout prix mettre de l'ordre (sans parler du problème des charges indues, que supporte la Sécurité Sociale) dans tous les secteurs économiques qui bénéficient, parfois outrancièrement, des ressources affectées à la protection sociale.

3. Pour ne pas détruire le nécessaire équilibre qui doit présider à l'affectation des grandes masses du revenu national, il faut, à cause du coût croissant des soins, conséquence de l'amélioration des techniques, aider qui doit être aidé, et ne plus se contenter de cette couverture identique pour tous, qui sous couleur d'égalité, aboutit à l'injustice puisqu'on aide de la même manière celui qui en a besoin et celui qui n'en a pas besoin. La part croissante et énorme des dépenses affectées par les individus à la satisfaction de besoins secondaires, voire tertiaires laisse supposer que ceci est fort possible sans que quiconque puisse crier au scandale ou à l'injustice.

A notre avis, s'il est vrai qu'il faut repenser entièrement le système hospitalier, réviser le problème du médicament, "profiler" (comme on dit maintenant) praticiens et assurés, améliorer gestion et contrôle, etc. . . . il ne faut pas non plus négliger ce que nous venons de dire. Tout se tient.

*M. Tarin
Vice-Président de la
Confédération nationale des
Syndicats dentaires*

Le Chirurgien Dentiste de France, No 20. 20 mai 1970.

Finally, I think this study will provoke meaningful discussion and stimulate more interest and work in this area.

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Birthday card program

Doctor Gray and his co-workers deserve congratulations for their well planned dental birthday card program for three year old children (May Journal).

The results of the initial four years certainly reinforce the value of the profession's aim in seeking the earliest possible indoctrination and necessary care for children.

The attractive birthday card is most appealing and the insert for the parent and the dentist is well presented and to the point. Both were effective in motivating many families to obtain needed treatment for their three year olds. Perhaps these children would have gone to the family dentist eventually; but the cards may have served to remind the parents that now is the appropriate time to get started. Even if these families were a majority of the group who did not use the card as intended, it may nevertheless have been the motivating force for earlier care.

I believe that a like program, either in whole or in part depending upon the availability of staff, could be implemented successfully anywhere in Canada where a preventive dental health program is in operation. I personally would like to see as many health departments and units as possible emulate this program.

It could be a very useful first step to show that the CDA Children's Dental Plan can be implemented, and that it is the right way to attack the problem of providing needed dental care for this generation. I fully support the premise that incremental care starting at age three is the best solution.

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The report of the "Four year effect of a dental birthday card program for three year old children" (Gray, Gunther and Jordan; May Journal) describes the effects of a program and not of an empirical study. But some of the comparisons are based on serious violations of experimental method and must be viewed with considerable scepticism.

In 1964-65 the authors distributed birthday cards to three year old children in Kelowna and School District 23, BC. Four years later they investigated the dental health of Grade 1 children in the same areas. These Grade 1 children were divided into three groups: "(a) students who had used the birthday card, (b) students who were eligible

and whose parents were contacted in 1964 but who did not use the card, and (c) students who had never been eligible for the program." This division violates a basic requirement of experimental design—initial equivalence of the groups. Groups (a) and (b) were self-selected; presumably the parents of the children in group (a) were dentally aware to some extent while those of group (b) relatively dentally apathetic.

What conclusions can be drawn from a comparison of groups (a) and (b)? None, except that parents who were apathetic in 1964 remained apathetic through 1968.

And what conclusions can legitimately be drawn between groups (a) and (c)? Again, and perhaps more serious, none. The reason here is that group (a) consisted of only "dentally aware" patients, while group (c) consisted of a mixed group of "dentally aware" and "dentally apathetic" patients. A fair comparison cannot be made of the two groups.

Despite my criticism, reasonable comparisons are available from the data. Let us assume that the program and non-program children were initially equivalent. By combining the data from groups (a) and (b) and comparing them with data from group (c) we can make some legitimate comparisons (Tables 1, 2) and draw our own conclusions like the authors.

But a percentage difference is not easily interpreted, as the authors know (they assert: "there is virtually no difference in the premature extraction rate of rural card users and non-users" despite a 1.6 per cent difference between the scores). We can obviate such problems by appropriate statistical techniques.

With respect to the differences between the "never-treated" scores for the program and non-program children, we can be fairly confident that the program did, indeed, have its desired effect.

Unfortunately, the difference in "caries-free" rates for the Kelowna groups is also probably significant; thus the assumption of initial equivalence upon which our comparisons are based is thrown into serious doubt. This is but one initial variable, and there may be others.

The authors went on to compare dental health indices of Grade 1 Kelowna school children between 1964-65 and 1968-69. Dramatic improvements were observed over the four year period. They point out, correctly, that factors other than their program may have caused the improvements: education via the mass media and level of general education and income in the area. Nevertheless, they are "confident that the birthday cards had a decided effect on the community and on parental attitudes. . . . This conviction is supported by the growing response to the card program in the Kelowna school district. During 1964-65, the first complete program year, 70 per cent of children who received birthday cards attended their

Needs of aged, chronically ill and handicapped patients

The study carried out in a hospital for the chronically ill in southern Saskatchewan (McPhail, Curry, Paynter; May Journal) is an important addition to the growing number of studies in this field. There is an interest that is common to the needs of the aged, the chronically ill and the handicapped; so much so that we can expect some duplication and overlapping in these areas.

The major fact that emerges from this study and others is the great backlog of work to be done. It may be a luxury to still assess needs (though logic dictates this as a first step) when it seems so imperative to begin providing more extensive dental services in these areas as soon as physically possible.

I am in complete agreement with the authors' recommendation that a standardized dental examination be part of all routine hospital admission examinations. I would like to see a nationally accepted, simple dental survey sheet that could be used by all hospitals and institutions. Information recorded on such a form, together with the WHO type A card, supplemented by any necessary additional codes, could yield the full range of dental needs in aged, chronically ill and handicapped patients. Treatment plans could be drawn up from such information with a good degree of accuracy. It follows that the CDA Council on Public Health could then become more effective in this area. It could define the role of organized dentistry more intelligently—particularly the profession's relationship with the public and government agencies acting on behalf of the public.

The authors' proposal to incorporate dental examinations into hospital procedures is basic to good hospital technique and should be routine. Unfortunately, few hospitals have dental facilities; and if they did, the problem of staffing such facilities would be difficult. Here is another matter that requires discussion in the profession.

Of course, the important dividend from such an arrangement is the opportunity of studying, at closer range, the relationship of systemic to dental diseases. Institutions which already have dental interns know how valuable this experience is, and it could be even more effective if similar programs could also be available, in a limited way, to dentists in active practice.

Grade 1 Kelowna school children in 1968-69

Table 1

	N	Caries free %	Treatment complete %	Partial treatment %	Never treated %	With premature extractions %
Program children	210	26.7	47.7	14.8	11.0	9.5
Non-program children	212	17.0	45.8	16.0	21.2	17.9

Grade 1 rural school children in 1968-69

Table 2

	N	Caries free %	Treatment complete %	Partial treatment %	Never treated %	With premature extractions %
Program children	239	14.6	46.5	22.2	17.0	17.9
Non-program children	209	15.8	35.9	19.1	29.2	24.8

family dentist. Since then, the participation rate has grown each year, attaining 83.4 per cent last year." Surely this finding could be a result of the other factors, and not a cause in itself. I am not saying that their interpretation is wrong; I am saying that we have no way of knowing one way or the other.

Dental health authorities who wish to test the efficacy of various techniques for improving dental health in their communities might perform the following experiment: randomly divide the population of children into two or more groups; do nothing to one group (control group); apply the techniques being tested to the other experimental groups. Not only can thoroughly valid comparisons be made between the groups, but the control group will indicate clearly the changes that have occurred in the absence of the technique being tested.

One further point: the indices of dental health must be measured objectively. "Complete caries treatment" exemplifies the kind of problem that can otherwise arise. When is "all caries treated?" For the purposes of a study, an explicit definition is imperative for two reasons. First, different individuals performing the testing may have divergent opinions. Second, and more serious, the same examiner may unwittingly adopt different criteria depending on the group he is examining. This ogre of "experimenter bias" can only be eliminated when the experimenter is unaware of the group he is examining. The authors do not comment on this problem.

Gray and his associates should be lauded for the imagination and vigour in the program they instituted, as should many others pursuing similar projects. But programs can only be put to good use when they are backed by solid experimental data.

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We were most pleased that Doctor Jackson read our paper so closely and took an interest in some of the smaller details. However, he seems to have missed the point that our public health

program was intended to treat the entire community as a patient. Before the program commenced in 1964, our most optimistic estimates were that perhaps 20 per cent of three year olds visited the dentist. The aim of the program was not to conduct an experiment, but to try and get all the children of our community attending the dentist at an earlier age. It is for this reason that we made no effort to have equivalent groups. The three groups are the total patient—in this case the Grade 1 community. Our Table 3 which compared all of the 1964-65 children with all of the 1968-69 children seems to show an obvious improvement in dental health.

We agree that other factors probably helped to produce this result. However, the three year old birthday card program continues each year to bring a larger proportion of preschool children under active dental treatment at an early age.

We should have reported that examiner bias was kept to a minimum. The examiners did not know to which group any child belonged, until the examinations were over. They also used the same explicitly defined, objective dental health indices for several years. The examiners were well calibrated, and the children were unaware of the groups they belonged to because they did not know we were making a comparison.

There is no satisfactory method for random selection of groups of parents and children in the same community, especially when some of the groups are to follow sound health practices whereas others are not allowed to participate. It is possible to compare communities with and without such programs, but bias in that case is also strong because varying attitudes and dental environments are involved.

Doctor Jackson may put too much reliance on statistical evaluation of methods. Certainly, better programs and ideas will follow but, in the meantime, effective methods can often be realized on the basis of common sense. For this reason, three year old birthday card programs are now used throughout much of British Columbia, and more of them start each year. We hope Doctor Jackson realizes that we omitted statistical tests because our article was pre-

sented as a case report of a patient—in this case the Grade 1 community—a patient whose dental health is obviously improving.

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Bilingualism

The editors have shown a high degree of tolerance in publishing the lengthy and extremely intolerant views of Doctor Axel Ruprecht (May issue). His animosity toward Canada's French population and against bilingualism shows in every sentence. His "stop . . . stop . . . stop" appeal will not deter the Government of Canada from taking such measures by the democratic process of legislation as it deems fit to protect the rights of English and French speaking Canadians and defend the language rights and civil liberties to which any other section of Canada's population is entitled.

I would take up too much of your valuable space were I to go into the established basic rights of French and English in Canada. Suffice to say that our legislators have shown tolerance and understanding of a situation that was highly explosive and have reached a fair and tolerant solution and a "modus vivendi" which has met with the general approval of all the provinces. As for the very modest cost of bilingualism, it is a small tribute to assure national unity. And no one is forced to adapt to any language against his will. If it suits Doctor Ruprecht to adhere to his mother tongue, German, that is his privilege whether others understand him or not.

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I was deeply shocked, Doctor Ruprecht, to read your letter on bilingualism in the May issue of our Canadian Dental Association Journal.

You are, of course, quite entitled to your personal opinions in all fields of human activity, but you should know that here in Canada, indeed in any democratic country, discussions which may stimulate racial or religious controversy are not accepted in scientific writings or in meetings.

The objectives of the *Journal of the Canadian Dental Association* are to promote knowledge and friendship among Canadian dentists irrespective of language or racial origin and for this reason alone, I strongly object to your using our Journal to express your personal opinions on the French language as used in Canada, opinions which show a definite lack of respect for many of your Canadian confrères in Quebec and in the rest of Canada.

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1000 Chemin Ste-Foy
Quebec 6, Que



Manitoba's Centennial Arts Centre was the site for the 1970 CDA national convention. Picture shows a small portion of the huge throng that crowded into the main registration area. The following pages provide a complete round-up of decisions by the Board of Governors and other convention highlights.

CDA-ADC WINNIPEG

CDA adopts new by-laws; revamps Board of Governors

The Canadian Dental Association voted to reduce its Board of Governors from 21 to 20 voting members, and approved other far-reaching decisions at the national convention in Winnipeg June 29-July 4.

Decisions reached were the culmination of months of discussion and review, arising out of the Aims and Objectives Conference and the special board meeting which had been called last year to chart new guidelines for the work of the CDA into the 1970's.

As a result, the Association will work under new by-laws bearing the stamp of approval of the Board of Governors.

Board

A major change was to reverse a decision which would have resulted in an

Registration

Registration at the national convention in Winnipeg reached 1,356. Of those who registered, 675 were CDA members, 40 dentists were from abroad, 76 were dental hygienists, 70 were dental assistants and 155 were exhibitors. There were also 340 wives registered.

enlarged Board with 32 voting members. Instead, the Board will have 20 voting governors representing corporate members as at present. There will also be four additional non-voting voices—three representing federal dental services and one elected annually by student members.

New nominating system

A streamlined nominating procedure is provided for in other by-law changes.

Nominations will be handled by a nominating council of three persons, plus the CDA president-elect, who will serve as chairman.

Three months in advance of each annual meeting, the council will notify board members, other council chairmen and secretaries of corporate members and CDA sections of any vacancies requiring nominations.

Written nominations will be invited up to a deadline of two months before the annual convention. The nominating council will rule on the eligibility of nominees, making sure there is a nominee for each vacancy and making further nominations as it sees fit.

The final slate of nominations will be circulated at least two weeks before each annual meeting.



Mrs. Helen Armstrong, CDA staff secretary, who attended her twenty-fifth CDA convention in Winnipeg, receives a bracelet from outgoing President H. R. MacLean as a memento of the occasion. Mrs. Armstrong, who has served under two CDA executive directors, D. W. Gullett and W. G. McIntosh, retired in August.



CDA governors spent busy sessions Monday, Tuesday and Wednesday in the La Verendrye Room of the Fort Garry Hotel.



Presiding at the Board sessions were (left to right) Past President Henri Brouillet, Treasurer J. B. Taylor, outgoing President H. R. MacLean, Board Speaker P. S. Christie and Executive Director W. G. McIntosh.

Decisions on major issues

Decisions on major issues will require a minimum 60 per cent majority vote of the members present for passage by the Board.

The by-laws allow for the Executive Council to take stands on urgent matters provided the full board is notified within 14 days, and the position is then presented for review at the next meeting of the Board.

The Executive Council will consist of four members of the Board in addition to the president, president-elect and immediate past president.

The new by-laws reduce the authority of the Executive Council in some areas, requiring instead approval by the full Board of Governors.

New council structure

The CDA's other councils and committees have been reorganized into 13 standing councils, covering auxiliary services, communications, constitution and by-laws, dental services, education, ethics, headquarters property, hospital services, insurance and investment, legislation, nominations, public health and preventive dentistry, and research.

The new by-laws also set out a new structure for the Council on Education so as to give definite representation to related bodies such as the National Dental Examining Board of Canada, the Association of Canadian Faculties of Dentistry, the Royal College of Dentists of Canada and the provincial licensing boards, while assuring a reasonable number of private practitioners are involved. At least four of the nine members of this council will be active members of faculty at Canadian dental schools.



Ivan Hrabowsky (centre), St. Catharines, Ont, president of the Ontario Dental Association, chats with G. G. Orser, Fredericton, NB, awaiting opening of a Board session. Looking on is H. M. Jolley, Toronto, president of the Royal College of Dental Surgeons of Ontario.



All eyes and ears are focused on D. K. Peters, St. John's, Nfld, as he makes a point during reference committee hearings on the report of the Council on Education.



W. J. Spence



Louis Bernier

DOCTOR SPENCE INSTALLED AS PRESIDENT DOCTOR BERNIER CHOSEN PRESIDENT-ELECT

W. J. Spence, Toronto, was installed as 51st president of the Canadian Dental Association. He succeeds H. R. MacLean of Edmonton.

Doctor Spence, who is an orthodontist, was born and educated in Toronto. During World War II he served as a pilot with the Royal Canadian Air Force, retiring in October 1945 as a flight lieutenant.

The following year he enrolled at the University of Toronto, graduating with a DDS degree in 1951 and an MSD degree from Northwestern University, Chicago, in 1953.

A consultant in orthodontics to Toronto's Faculty of Dentistry, he has also been on the staff of the Toronto Hospital for Sick Children and as director of the hospital's cleft palate institute.

Doctor Spence has served organized dentistry in numerous capacities - as councillor of the North Toronto Dental Society 1955-56; secretary of the Canadian Society of Dentistry for Children 1956-57; deputy supreme president, Omicron Chapter, Xi Psi Phi fraternity 1957-59; and president, Toronto Orthodontic Study Club 1961.

A governor of the Ontario Dental Association from 1962 to 1969, he was elected ODA president at the ODA-CDA Centennial Convention in 1967. He has represented the Ontario Dental Association on the CDA Board of Governors since 1967 and was elected to the CDA Executive Council that same year. He is also a fellow of the International College of Dentists.

An ardent devotee of golf and curling, Doctor Spence is also an accomplished artist whose works have been exhibited at several CDA art salons.

Another orthodontist, Louis Bernier of Quebec City, has been chosen presi-

dent-elect. Doctor Bernier was named to the CDA Board of Governors in 1965 and Executive Council in 1968. He is a fellow of the International College of Dentists and of the Royal College of Dentists of Canada.

Executive Council

Newly elected members of the Executive Council are H. M. Jolley, Toronto, and D. K. Peters, St. John's, Nfld, who begin a first term on the council. (Unsuccessful candidates were E. J. Siegel, Toronto; J. E. Merritt, Halifax; and Lindsay Mussells, Montreal.) Continuing as council members are President W. J. Spence, Past President H. R. MacLean and President-elect Louis Bernier; also J. E. Abra, Winnipeg, and L. E. English, Kamloops, B.C.

Other council chairmen

Elected as chairmen of other councils were: E. F. Allison, Calgary, Auxiliary Services; K. I. Levinson, Toronto, Communications; Rémy Langlois, Quebec City, Constitution and By-laws; P. E. Currie, London, Dental Services; K. J. Paynter, Saskatoon, Education; R. M. Le Blanc, Montreal, Ethics; J. Kreutzer, Toronto, Headquarters Property; P. T. Smylski, Toronto, Hospital Services; D. C. Way, London, Insurance and Investment; M. M. Derrick, Ottawa, Legislation; Louis Bernier, Quebec City, Nominations; K. W. Davey, Toronto, Public Health and Preventive Dentistry; and L. E. Francis, Montreal, Research.

P. S. Christie, Halifax, was re-elected chairman of the Board of Governors.

Conjoint national-provincial membership

The Board learned that the profession in one province is contemplating separation of the licence fee from dues for membership in the provincial and national associations. This action came in response to recent governmental investigations of educational and regulatory arrangements governing the health disciplines in that province.

Noting that separate, unrelated, voluntary individual memberships in national and provincial organizations could have adverse effects on organized dentistry, the Board:

- Approved the principle of voluntary individual conjoint membership in a local dental society (when such exists), a provincial corporate member and the CDA;

- Invited the corporate members to also approve the principle of conjoint voluntary individual membership; and

- Asked the Council on Constitution and By-laws to draft a by-law amendment to create the required flexibility to accommodate corporate and individual memberships as they now exist and as envisaged on a conjoint voluntary membership basis.

Convention adopts new resolutions on auxiliaries and medicare

In addition to passing the new by-laws, the CDA Board of Governors considered important resolutions on auxiliaries and discrimination against certain dental services under provincial medicare plans. Also adopted at the annual meeting in Winnipeg was a new revised Code of Ethics.

Dental auxiliaries

The CDA adopted the following resolution on auxiliaries which had been submitted by the Auxiliary Services and Dental Services Committees:

"Whereas the services of dental auxiliaries are essential to the efficient delivery of dental health care, and

"Whereas the licensed dentist must assume the ultimate responsibility for the welfare of his patient and competent performance of all dental services rendered at his direction, regardless of the personnel involved in the delivery of these services, therefore be it

"Resolved that it is the prerogative of the dentist, subject to his licensing authority, to delegate to formally trained auxiliaries over whom he exerts effective supervision and control such duties as to not require the professional knowledge and skill of the dentist."

The governors also voted for a resolution supporting the principle of closer liaison between dental hygienists and the provincial licensing boards.

Dental services

Two significant measures were approved after lengthy reference committee hearings.

One dealt with regulations of the federal Medical Care Act which compensate dental services only when they are performed in a hospital. The Board held that such regulations discriminate against dentists and their patients, impose inconvenience on the public and escalate the utilization of hospital services.

The governors asked that the federal government remove the "in hospital" restrictions on dental services covered under the Medical Care Act. Corporate members who support such action were asked to (1) notify the Executive Director and (2) approach respective provincial health ministers requesting provincial endorsement. The Executive Director was also instructed to approach the Minister of National Health and Welfare once more and seek elimination of the "in hospital" restriction.

The governors also adopted the following principles as an addendum to the CDA's Dental Health Plan for Children:

- The plan should provide for the application of preventive procedures in private practice as well as in the public health services.

- Under the dental public health pre-school and school programs all appropriate preventive measures should be utilized.

- The dental health status of eligible children should be assessed regularly in a statistically sound manner.

- The special clinics to be established to treat cleft palate and cleft lip cases should be expanded to include a wide range of handicapping conditions that require hospital care.

- Covered treatment services should include prevention and interception of malocclusion.

- Covered diagnostic and treatment services may be rendered by a specialist when the patient has been referred by a practitioner of dentistry or medicine. Under these circumstances, the specialist should receive the appropriate specialist fee for included services.

Education

Under a newly adopted policy on dental internships and residencies:

- Internships or residencies will only be accredited if they form part of an accredited formal university program of graduate or postgraduate study in an area of specialization recognized by the CDA.

- Internships or residencies will not be accredited unless the hospital in which they are offered has been approved by the CDA.

The Board went on to approve a comprehensive new statement on "Sur-



Governors and delegates found the scenery eye-catching, with attractive "mini Mounties." Wasting no time, G. W. Danzinger, Winnipeg, and W. H. Sussell, Chilliwack, BC, immediately registered for next year's CDA national convention in Ottawa Sept 30-Oct 2, 1971.

vey Policy and Accreditation of a Dental School." Prepared by the Council on Education, the new statement replaces an earlier one on "Minimum Requirements for the Approval of a Dental School."

Also adopted was a new statement outlining "Minimum Requirements for Educational Programs in Dental Assisting."

New Code of Ethics

The CDA adopted a new Code of Ethics, replacing an earlier one which had served since 1958. The 24 sections of the new code cover such diverse subjects as service to the public and the profession; consultations and professional secrecy; professional accounts, fees and fee splitting practices; patents and copyrights; advertising and announcements; and the use of professional titles and degrees. Several other sections deal with topics that reflect new trends in the relationship between the dentist and society. They cover such matters as group practice, professional incorporation, auxiliary personnel, and relations between the dentist and the public information media.

Hospital services

In other actions the Board:

- Resolved that approved hospital dental services should be reassessed

every three years rather than every five years.

- Asked that "patients admitted for dental care shall be admitted by a dentist on the dental staff . . . A physician on the medical staff of the hospital shall be responsible for the history and physical examination, and the general medical care of the patient."

- Approved the early establishment of an advisory service as part of the CDA sponsored insurance programs.

- Declared that smoking and use of tobacco increases the susceptibility of oral tissue to disease and is incompatible with good oral health and appearance.

- Confirmed the appointment of J. B. Taylor as association treasurer.

- Directed that a management consultant firm study CDA headquarters administration (at a cost not to exceed \$2,000) and recommend the number and type of personnel required to execute the Association's business.

- Directed that the Executive Council form a special committee to study the future location of CDA headquarters.

- Commended the Council on Public Health for initiating the production of an educational film on dentistry directed toward high school audiences.

- Reiterated its support for fluoridation.

- Terminated the moratorium on the recognition of further specialties and sections.



Platform dignitaries at the installation ceremony in the Centennial Centre, Saturday July 4, are from left: W. G. McIntosh, CDA executive director; L. E. English, Kamloops, BC; P. S. Christie, Halifax, chairman of the Board of Governors; A. J. Shinoff, Winnipeg, Manitoba Dental Association president; Harold Hillenbrand, Chicago, former executive director of the American Dental Association; Louis Bernier, Quebec City, CDA president-elect; W. J. Spence, Toronto, CDA president; Henri Brouillet, Montreal, CDA past president; C. G. Watson, Chicago, American Dental Association executive director; W. P. Munsie, Vancouver; W. R. Weatherston, Isle of Tiree, Scotland, representing the British Dental Association; J. B. Taylor, London, CDA treasurer; D. M. MacDonald, CDA comptroller and CFDE executive director; and F. H. Compton, CDA editor.

—Authorized initiation of a national public relations program for the dental profession as proposed by Carleton Cowan Ltd, CDA public relations consultants.

—Appointed E. J. Fox, Ottawa, to the Executive Council's Subcommittee on Taxation. Doctor Fox will have special responsibility for tariffs and sales taxes on dental supplies and equipment.

—Revised dues for associate memberships to \$20 effective January 1, 1971.

—Confirmed the following locations and dates of forthcoming CDA national conventions: Quebec City, June 19-24, 1972; Vancouver, Sept 27-Oct 3, 1973; Windsor, Ont, Sept 30-Oct 4, 1974.

Slash programs, services to balance budget

Treasurer J. B. Taylor presented to the Executive Council estimates for 1971 showing income of \$399,500, expense of \$474,400 and an excess of expense over income of \$74,900.

This deficit can only be met by increased revenue, encroachment on the reserve fund or curtailed expenditure forcing a cut in service. The latter two alternatives would seriously weaken the CDA's effectiveness, he warned, adding that the reserve fund would be ex-

hausted by 1973 if current deficits are allowed to continue as predicted.

"I present the estimates of revenue and expense for 1971, fully supporting the need and desirability for each of the expenditures but, because of our current and projected financial position, I am unable to recommend the adoption of this budget," the treasurer said.

The Board subsequently trimmed \$75,700 from various needed programs and services and recommended adoption of a revised budget showing expense of \$398,700 and an excess of income over expense of \$800.

CDA should move to Ottawa, says Doctor MacLean

The dental profession must find ways of delivering service "at a cost the public can afford," retiring President H. R. MacLean told Canadian Dental Association members in Winnipeg.

Delivering a presidential report to the CDA's national convention, Doctor MacLean said "professional organizations must place emphasis on health care or non-professionals will pay attention to the mandates of the people and arrange for the delivery of health services "through government agencies."

"I believe we need at every level of government," Doctor MacLean said, "to

let government know that dentistry wants to be involved."

Doctor MacLean added that the CDA should have closer liaison with existing health agencies and any new ones which may come into being, because "one of these may well be the offices through which a national dental health care plan in whole or part will be proposed."

Because of the growing importance of the profession's relationship to government, Doctor MacLean proposed that the CDA consider moving its headquarters from Toronto to Ottawa.

He said moving the CDA to Ottawa would make the Association more visible "to those agencies and organizations which have new interests in dentistry, such as government, labour, national associations of education, research and industry, all of which are becoming more involved with the delivery of health care."

"Far too often," Doctor MacLean added, "dentistry is left out of planning simply because it does not seem to be around at the time and place where programs and concepts are initiated."

Doctor MacLean added that the present staff and building facility of the CDA in Toronto "are completely inadequate." He said a survey of the provincial bodies which comprise the CDA membership shows a majority in favour of the move to Ottawa.

Responding to Doctor MacLean, the Association appointed a special committee to determine the advantages and disadvantages of moving CDA headquarters to the national capital. Factors which the committee will assess include: the value of closer proximity



Allied groups held meetings during the national convention. Here several delegates line up at the dental assistants' registration desk.

to the federal government; financial implications of such a move; comparison of operational costs in Toronto and Ottawa; building, purchasing, renting or lease-back arrangements for office space; disposal of CDA's Toronto property; observations of other national associations which have recently moved to Ottawa; CDA representation in Ottawa if the Association's headquarters remains in Toronto; and Journal production facilities in Ottawa.

The outgoing CDA president urged greater emphasis on the role of economic research within the Association.

"Few areas receive as little attention as economic research, yet few are more important," he told delegates. He called for an enlargement of the CDA's work in this field.

Doctor MacLean also urged that dental undergraduate students in their final two years be admitted to the CDA as non-voting members. He said such a move would enable the student to "familiarize himself with our organization and operation — he will be a better professional man because of this communication."

Doctor MacLean also spoke of the role of the Canadian Dental Association as the national voice of the dental profession.

"Recognizing that matters concerning our provincial organizations are currently demanding considerable attention, it is still essential that we become more representative and more effectively organized nationally," he said.

"We must recognize the responsibilities of the CDA and its essentiality in guiding national policies. We must be ready to contribute financially to ensure that this is as efficient an organization as possible."

"In the future we may find it more desirable to change our method of membership and our internal structure. This is now under study. The Canadian Dental Association cannot be less than the strongest organization speaking for dentistry. Dentistry can afford this — we cannot afford a secondary position."

Doctor MacLean also endorsed a proposal to appoint an assistant to Executive Director W. G. McIntosh.

Allied personnel hold key to the future, say CDA panelists

Convention delegates were told that the profession will be able to meet future needs of Canadians only by training more people to take on work now being done by dentists.

The point was made during a panel discussion on "The Role of Allied Dental Personnel in Canada," held on the closing day of the CDA convention in Winnipeg.

J. F. Reid of Vancouver said that because the growth of the population had outstripped the turn-out of new dentists, the ratio of dentists to population had declined in Canada since the 1950s.

"Public apathy and financial concern" were given by Doctor Reid as the main reason more people were not availing themselves of dental service. He said the dental profession was "just matching wants rather than needs" but added that prepaid health plans would remove some of the barriers to greater use of dental services.

Doctor Reid said it would be "unrealistic" to attempt to improve the situation by simply turning out more dentists. The cost of enlarged dental faculties and new schools would be prohibitive.

Instead, auxiliary staff such as dental hygienists, assistants and technicians should be given greater responsibility as part of the dental team. Doctor Reid said physicians were far ahead of dentists in this respect.

In answer to a question, Doctor Reid said larger dental offices, with twice the number of auxiliary workers, would be needed. This would come about from increased acceptance of the team concept, with several dentists and their staff working together. To do this, dentists would require government financial assistance, just as hospital facilities are

made available to physicians at no cost to them.

A test project in Prince Edward Island, under which hygienists and assistants were allowed to help the dentist in routine technical aspects of restorative dentistry, increased the average dentist's productivity by 50 per cent, the panel was told.

R. G. Romcke, Charlottetown, PEI, head of the dental division of the provincial department of health, said that tests in five offices had shown the average dentist was able to take on 10 to 12 extra patients per day with help from his assistants. He predicted dentists' productivity could go up by 100 per cent under this scheme, with no loss of quality in service.

The dentist would prepare the patient, then turn over certain duties to his staff, Doctor Romcke said. "Our dentists were amazed at their increased productivity. They ended up with two or three hours a day that they didn't have before to see patients."

E. F. Allison of Calgary, chairman of the CDA Council on Auxiliary Services, said there was "rising public concern over the availability and delivery of dental and other health services."

Assistants, hygienists and technicians should work together as a team with the dentist the responsible party, Doctor Allison said. He called on the profession to drop its "archaic attitude" that the dentist should not delegate some of his work.

Doctor Allison said the CDA was working with the Canadian Dental Nurses and Assistants Association to set up a national certification program under which assistants would become qualified following 500 hours of lectures and training. Graduates of such a course would become clinical dental assistants, "able to handle any delegated duty under supervision." How-

An attentive audience of dentists, dental hygienists and dental assistants questioned panelists who discussed "the role of allied dental personnel" on the closing day of the Winnipeg national convention.



ever, provincial legislation would have to be amended to make this possible.

Doctor Allison said both technicians and dental mechanics should be included as part of the dental team.

Fred Wihak, Regina, past president of the College of Dental Surgeons of Saskatchewan, said that in two western provinces—Alberta and BC—it is legal for dental mechanics to perform oral procedures.

Doctor Wihak called for the legalization of dental mechanics as part of the dental profession so that "they can serve under our direction and supervision." This could be done by having dental mechanics either join group practices with dentists, or working in settings like the Manitoba Denture Clinic in liaison with dentists.

The CDA's ruling body, the Board of Governors, earlier in the week approved a resolution that dentists should be able to delegate more of their duties to staff assistants.

Saliva tests may help predict periodontal disease

Dentists may soon be able to use saliva tests to identify and prevent incipient periodontal disease, a New York dentist reported to the CDA national convention in Winnipeg.

I. D. Mandel of Columbia University, New York, made the prediction at a panel discussion on "Clinical Application of Basic Research." He said within five years the saliva test will become as routine as blood tests and urine tests are today.

L. M. Golub, associate professor of oral biology at the University of Manitoba, told convention delegates he is working on a crevicular tissue fluid test suitable for use in the dentist's office. The test, which involves the insertion of treated paper between the teeth, may be used to evaluate treatment of periodontal disease. The procedure has shown that 70 per cent of apparently healthy gingiva is in fact inflamed.

Doctors Mandel and Golub were participants in a panel on dental research with Paul Goldhaber, dean of the School of Dental Medicine at Harvard University, Boston, and Israel Kleinberg, head of biochemistry at the Faculty of Dentistry, University of Manitoba.

Panel describes latest advances in clinical fields

The most recent developments in six phases of clinical dentistry were described to a capacity audience at the Winnipeg national convention.

Speakers in the panel discussion on "What's New in Dentistry" covered the fields of oral surgery, prosthodontics, diagnosis and treatment planning, orthodontics, endodontics and the prevention of injuries in contact sports.

Orthodontic surgery

Dento-alveolar orthodontic surgery (surgical movement of teeth and bone segments without loss of continuity of the jaw) can be used where orthodontic treatment may be inappropriate, as in adult patients.

S. Kennett, head of oral surgery at the University of Manitoba's dental faculty, told delegates that the end results in such cases are more stable than with orthodontic treatment.

Doctor Kennett illustrated orthodontic surgery by examples of mandibular operations in Angle Class II cases with deep overbite and Angle Class III cases where the profile is acceptable but osteotomy is inappropriate.

Also described were maxillary operations—one in Angle Class II cases where the premaxilla is mobilized and pushed back into space created by extraction of the first bicuspid; the other in patients with anterior open bite where bicuspid and molars are raised into space afforded by the maxillary antrum.

"Teeth moved in dento-alveolar surgery lose thermal vitality even though their vascular supply remains intact," Doctor Kennett said. But he added that thermal vitality is restored after three to six months.

Prosthodontics

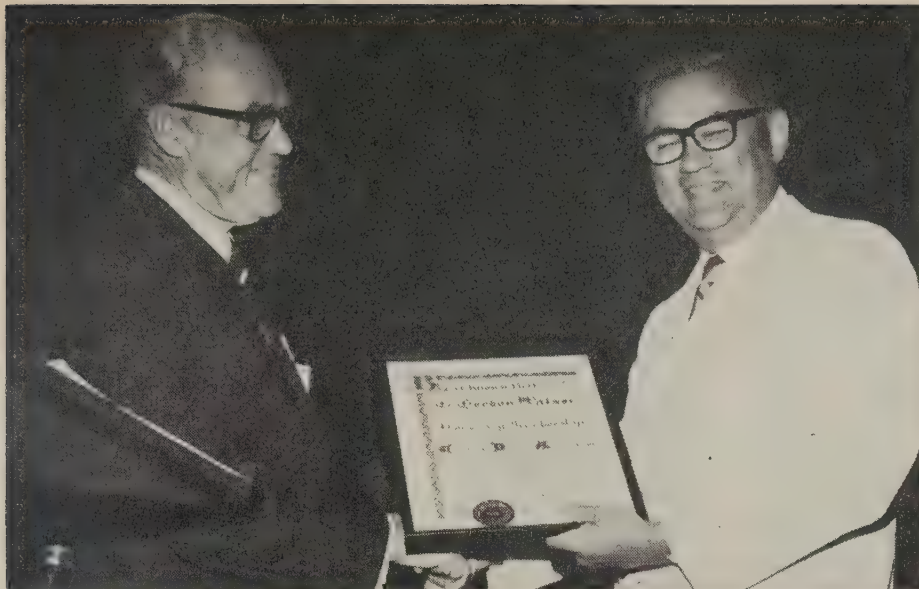
Tooth-supported complete dentures are regaining popularity, according to A. D. Fee, professor and chairman of prosthodontics at the University of Alberta.

The Edmonton dentist described how prepared and treated natural roots can serve as anchors for copings and chrome bearings in the denture which rests on the copings.

Doctor Fee also predicted "a great future for implants in the hands of the general practitioner." He described a new implant material consisting of a

CDA past presidents held their annual breakfast meeting Friday July 3. Pictured, from left, are: H. R. MacLean, A. J. Coughlan, P. S. Christie, Rémy Langlois, Henri Brouillet, James Zimmerman, K. M. Johnson, M. H. Garvin and W. G. McIntosh.





C. Gordon Watson (right), executive director of the American Dental Association, received an honorary membership in the CDA from outgoing President H. R. MacLean.



Installing Officer W. P. Munsie (left) congratulates the new CDA president, W. J. Spence.

mixture of acrylic resin and ground bone. The bone is resorbed and replaced by connective tissue which attaches itself to the implant, making for greater stability.

Doctor Fee also mentioned a new, very thin, perforated, wedge-shaped device which can be implanted 4-5 mm below the surface of the jaw. This implant gives excellent support for dentures or crowns in full-mouth reconstruction, he said.

Other new developments described were the injection of a sclerosing solution which facilitates re-attachment of the mucous membrane to the periosteum, and a silicone-Dacron ridge extension material.

Diagnosis, treatment planning

A Winnipeg dentist urged dental schools to develop a standard form for recording case histories, diagnoses and treatment plans.

S. R. Katz, senior member in Winnipeg's Kelvin Dental Group, criticized inadequate patient evaluation as a major source of improper treatment.

"Students must be taught to recognize the whole masticatory apparatus as an integral system, not as several unrelated, fragmented units," he said.

Orthodontics

Progress in midpalatal suture expansion techniques, post-orthodontic retention, the epidemiology of malocclusion and computer cephalometrics was outlined by a Winnipeg orthodontist, L. C. Melosky.

"Over-rotated teeth relapse because

the supra-crestal fibres remain attached and directionally oriented to such teeth," he declared. Severance of the supra-crestal fibres after tooth rotation has been effective in young adults and caused no damage to the supporting tissues, he added.

Doctor Melosky also reported a new index for measuring handicapping orthodontic abnormalities. This index, now being tested at the University of Manitoba, can help orthodontists to establish treatment priorities under dental insurance plans.

Another valuable development, he said, is the orthodontic prediction model provided by the new Rocky Mountain Computer Data System. Cephalometric radiographs sent by orthodontists are traced and the resultant data are fed into the computer which then tells how a given case deviates from normal. This affords more accurate growth prediction and better treatment planning, Doctor Melosky said.

Endodontics

A new Vitallium and cement root canal filling which penetrates into the jaw bone was described by Isadore Wolch, head of endodontics at the University of Manitoba.

The technique, used in intentional tooth replantation, helps to stabilize the affected tooth so that it can be used for mastication or as an abutment.

Contact sport injuries

A Toronto paedodontist, A. W. S. Wood, outlined the six basic require-

ments for dental protective devices in contact sports: maximum physical protection, comfort, unrestricted breathing, maximum retention, unobstructed vision and reasonable cost.

Young hockey players like extra-oral devices whereas older athletes and football players prefer the intra-oral kind. Helmets with good suspension are essential in all contact sports, Doctor Wood added.

C. Gordon Watson elected honorary member

Honorary membership in the CDA was conferred on C. Gordon Watson, Chicago, executive director of the American Dental Association.

Other distinguished guests and visitors included:

Doctor and Mrs. J. M. Deines, Seattle, Washington. Doctor Deines is president-elect of the American Dental Association.

Mr. and Mrs. W. R. Weatherston, Isle of Tiree, Scotland. Mr. Weatherston is president of the West Scotland Branch of the British Dental Association.

Doctor and Mrs. Harold Hillenbrand, Chicago. Doctor Hillenbrand is president-elect of the Fédération Dentaire Internationale.

Doctor and Mrs. D. L. Kippen, Winnipeg. Doctor Kippen is president of the Canadian Medical Association.

Doctor and Mrs. C. Gordon Watson, Chicago. Doctor Watson is executive director of the American Dental Association.

Doctor Hugo Kulstad, Bakersfield, California, first vice-president of the American Dental Association.

L'ADC adopte de nouveaux règlements et réforme le Bureau des Gouverneurs

L'assistance était nombreuse aux réunions du Bureau des Gouverneurs à Winnipeg. On remarque, de gauche à droite, les docteurs Henri Brouillet; J. B. Taylor, trésorier; H. R. MacLean, président sortant; P. S. Christie, président du Bureau des Gouverneurs; et W. G. McIntosh, directeur général.

L'Association Dentaire Canadienne a voté de réduire son Bureau des Gouverneurs de 21 à 20 membres avec droit de vote et a approuvé d'autres décisions fondamentales lors de la réunion du Bureau des Gouverneurs qui s'est tenue à Winnipeg du 29 juin au premier juillet.

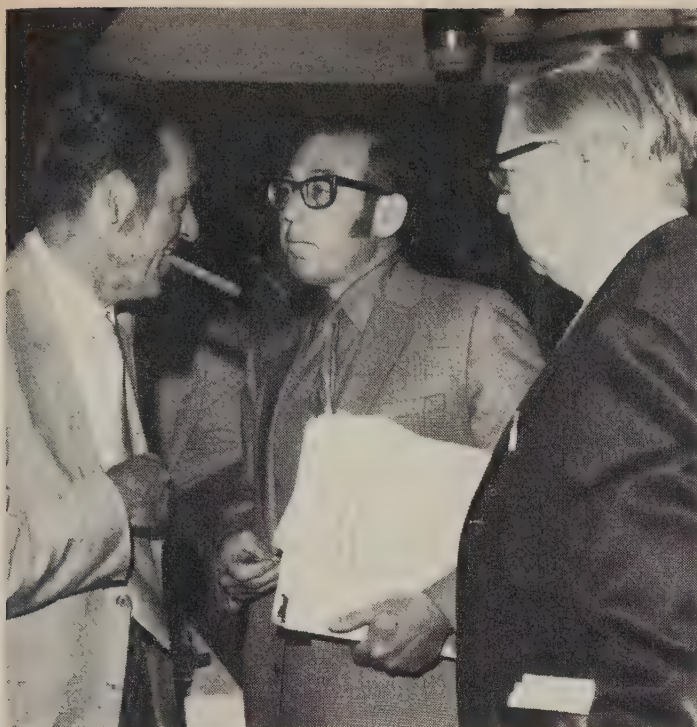
Les décisions ainsi prises concluent les discussions et révisions des derniers mois qui ont résulté de la Conférence sur les Buts et Objectifs de l'ADC et de la réunion extraordinaire du Bureau des Gouverneurs, convoquée l'année dernière dans le but d'élaborer une nouvelle ligne de conduite pour le travail de l'ADC durant les années 1970.

Par conséquent, le travail de l'Association sera dorénavant guidé par les nouveaux règlements approuvés par le Bureau des Gouverneurs.

Le Bureau des Gouverneurs

Les gouverneurs ont décidé de révoquer une décision qui aurait agrandi le Bureau à 32 membres avec droit de vote. Au lieu de cela, le Bureau aura 20 gouverneurs avec droit de vote représentant les membres corporatifs comme à présent. Il y aura, en plus, quatre membres sans droit de vote — trois représentants des services dentaires fédéraux et un représentant élu





Une discussion interprovinciale entre les docteurs G. M. Dundass, Montréal; E. J. Siegel, Toronto; et J. E. Merritt, Halifax.



Les dentistes de la Colombie Britannique et du Québec à la réunion du Bureau des Gouverneurs. On remarque les docteurs L. E. English de Kamloops et J. F. Reid de Vancouver avec les docteurs Marcel Archambault et H. L. Mussells de Montréal.

chaque année par les membres étudiants.

Nouveau système de mise en candidature

La procédure de mise en candidature a été perfectionnée par d'autres modifications des statuts.

Un conseil de trois personnes sera chargé de la présentation des candidats; en plus, le président désigné de l'ADC agira comme président de séance.

Trois mois avant l'assemblée annuelle, le conseil avisera les membres du Bureau, les présidents de conseils et les secrétaires des membres corporatifs et des sections de l'ADC de tout poste vacant qui nécessite une mise en candidature.

Les présentations écrites des candidats seront acceptées jusqu'à deux mois avant le congrès annuel. Le conseil décidera de l'éligibilité des candidats, vérifiera qu'il y a un candidat pour chaque poste vacant et désignera d'autres candidats où nécessaire.

La liste finale des candidats sera mise en circulation au moins deux semaines avant chaque congrès annuel.

Décisions sur les questions importantes

Les résolutions sur les questions importantes nécessiteront une majorité d'au moins 60 p.c. des membres pré-

sents pour qu'elles soient passées par le Bureau.

Les règlements accordent au Conseil Exécutif le droit de décider sur les affaires urgentes à condition que tous les membres du Bureau soient avertis dans un délai de 14 jours et que la proposition soit ensuite présentée pour examen à la prochaine réunion du Bureau.

Le Conseil Exécutif comprendra cinq membres du Bureau en plus du président, du président désigné et du président sortant.

Les nouveaux règlements limiteront le mandat du Conseil Exécutif dans certains domaines où la ratification du Bureau des Gouverneurs au complet sera exigée.

Nouvelle structure des conseils

Les autres conseils et comités de l'ADC ont été réorganisés en 13 conseils permanents et comprennent les services auxiliaires, les communications, la constitution et les règlements, les services dentaires, l'enseignement, l'éthique professionnelle, l'immeuble du secrétariat, les services hospitaliers, l'assurance et les placements, la législation, les nominations, l'hygiène publique et la dentisterie préventive, ainsi que la recherche.

Les nouveaux règlements établissent aussi une nouvelle structure concernant le Conseil de l'enseignement afin d'as-

surer une représentation bien déterminée aux corporations connexes tels que le Bureau National d'Examen Dentaire du Canada, l'Association des Facultés Dentaires du Canada, le Collège Royal des Chirurgiens-Dentistes du Canada et les bureaux de licence provinciaux, ainsi que la présence d'un nombre raisonnable de dentistes en pratique privée. Au moins quatre membres sur neuf du Conseil devront être membres actifs d'une faculté dentaire canadienne.

Cotisation conjointe nationale-provinciale

Le Bureau des Gouverneurs a appris que les dentistes dans une province considèrent la question de séparer les frais de licence de la cotisation pour l'association provinciale et nationale. Cette mesure fait suite à une récente enquête gouvernementale sur les principes éducatifs et régulateurs qui régissent les professions de la santé dans cette province.

Vu que l'appartenance indépendante, séparée et individuelle à une des organisations, soit nationale soit provinciale, peut influencer défavorablement la dentisterie organisée, le Bureau des Gouverneurs:

—A approuvé le principe de l'appartenance volontaire, individuelle et conjointe à une société dentaire locale (là où elle existe), au membre corporatif provincial et à l'ADC;

—A également invité les membres corporatifs à approuver le principe de l'appartenance conjointe, volontaire et individuelle;

—A demandé au Conseil de la constitution et des règlements de rédiger un amendement aux règlements afin de créer la flexibilité voulue pour accommoder les membres corporatifs et les membres individuels tels qu'ils existent maintenant et tels qu'envisagés sur la base de l'appartenance conjointe et volontaire.

Le Congrès adopte de nouvelles résolutions sur les auxiliaires et l'assurance-maladie

En plus de l'adoption des nouveaux règlements, le Bureau des Gouverneurs de l'ADC a également étudié des résolutions importantes concernant les auxiliaires et la discrimination contre certains services dentaires qui font partie des programmes provinciaux d'assurance-maladie. Les délégués au congrès de Winnipeg ont aussi adopté un nouveau code d'éthique professionnelle.

Les auxiliaires dentaires

L'ADC a adopté la résolution suivante sur les auxiliaires, qui avait été soumise par les Comités des services auxiliaires et des services dentaires:

"Attendu que les services des auxiliaires dentaires sont essentiels à l'exécution efficace des soins dentaires et

"Attendu que le dentiste licencié doit assumer la responsabilité du bien-être de ses patients ainsi que de l'accom-

plissement satisfaisant de tous les services dentaires rendus sur son ordre, quel que soit le personnel engagé à rendre ces services, en conséquence, il est

"Résolu que le dentiste a le privilège, sous réserve de l'approbation de l'organisme provincial de contrôle, de déléguer à des auxiliaires dûment formées sur lesquelles il exerce une surveillance et une direction efficaces, des tâches telles qu'elles n'exigent pas les connaissances et l'aptitude du dentiste.

Les gouverneurs ont également approuvé une résolution appuyant le principe d'une meilleure liaison entre les hygiénistes dentaires et les bureaux provinciaux de licence.

Les services dentaires

Deux mesures importantes ont été adoptées à la suite de longs débats en comité d'étude. Une résolution traitait des règlements de la Loi fédérale de l'assurance-maladie qui ne rémunère les services dentaires que lorsqu'ils sont donnés dans un hôpital. Le Bureau a jugé que ces règlements défavorisent les dentistes et leurs patients, qu'ils imposent des inconvénients au public et précipitent une demande accrue des services hospitaliers.

Les gouverneurs ont demandé que le gouvernement fédéral ôte les restrictions hospitalières qui existent pour les services dentaires inclus dans la Loi de l'assurance-maladie. Ils ont demandé aux membres corporatifs qui appuient cette mesure de: (1) le faire savoir au Directeur général et (2) d'approcher les ministres provinciaux de la

santé pour demander l'adhésion des provinces. On a également demandé au Directeur général de faire des démarches encore une fois auprès du Ministre de la Santé nationale et du Bien-être social et de demander l'élimination des restrictions hospitalières.

Les gouverneurs ont aussi adopté les principes suivants comme amendement au Régime de Santé Dentaire pour Enfants de l'ADC:

—Le programme devrait pourvoir à la réalisation des mesures préventives dans le cabinet privé aussi bien que par les services d'hygiène publique.

—Aux termes des programmes pré-scolaires et scolaires d'hygiène dentaire publique, toutes les mesures préventives convenables devraient être utilisées.

—L'état de santé dentaire des enfants éligibles devrait être établi régulièrement à l'aide de statistiques proprement analysées.

—Les cliniques spéciales qui seront établies pour soigner les divisions palatines et les becs-de-lièvre devraient être élargies afin d'y inclure les handicapés physiques et mentaux qui, à l'heure actuelle, doivent être soignés dans un milieu hospitalier.

—La couverture des soins dentaires devrait comprendre la prévention et l'interception de la malocclusion par des procédés qui relèvent de l'habileté et du savoir de l'omnipraticien.

—Les services de diagnostic et de soins couverts peuvent être donnés par un spécialiste dans le cas où le patient y a été dirigé par un dentiste ou un médecin. Dans ces circonstances, le spécialiste devrait recevoir les honoraires appropriés d'un spécialiste pour les soins qui sont inclus.

Le Conseil Exécutif s'est réuni les 25, 26 et 27 juin et le 3 juillet. On voit sur cette photo (de gauche à droite) les docteurs J. B. Taylor, trésorier de l'ADC; Henri Brouillet; W. G. McIntosh, directeur général de l'ADC; H. R. MacLean, président sortant; W. J. Spence, président; L. E. English; J. E. Abra; Louis Bernier, président désigné; Harold Hillenbrand, ancien directeur général de l'Association Dentaire Américaine; et C. G. Watson, directeur général de l'ADA.



L'enseignement

Aux termes d'une nouvelle politique qui a été adoptée concernant les internats et les résidences dentaires:

—Les internats et les résidences ne seront approuvés que s'ils font partie d'un programme universitaire formellement autorisé d'études graduées et post-graduées d'un sujet spécialisé reconnu par l'ADC.

—Les internats et résidences ne seront pas approuvés si l'hôpital qui arrange ces études n'est pas reconnu par l'ADC.

Le Bureau a ensuite sanctionné une nouvelle déclaration d'ensemble sur "La politique d'inspection et d'agrément d'une école dentaire". Le nouveau rapport, qui avait été préparé par le Conseil de l'enseignement, remplace "Les exigences essentielles à l'agrément d'une école dentaire".

D'autre part, un nouveau communiqué indiquant "Les exigences essentielles des programmes d'enseignement des assistant(e)s dentaires" a été adopté.

Nouveau code d'éthique professionnelle

L'ADC a adopté un nouveau code d'éthique professionnelle qui remplace celui qui était en vigueur depuis 1958.

Les 24 sections du nouveau code comprennent des sujets variés comme: le service au public et à la profession; les consultations et le secret professionnel; la pratique de partager les honoraires; les brevets d'invention et les droits d'auteur; la publicité et les avis; les titres professionnels et académiques. Plusieurs autres sections traitent de questions qui reflètent de nouvelles tendances dans les rapports entre le dentiste et le public. Elles décrivent des sujets tels que les cabinets groupés, l'incorporation professionnelle, le personnel auxiliaire, et les relations entre le dentiste et les médias de communication.

Les services hospitaliers

Suite à d'autres mesures, le Bureau a:

—Résolu que les services dentaires hospitaliers approuvés devraient être ré-évalués tous les trois ans plutôt que tous les cinq ans.

—A demandé que "tout patient admis à l'hôpital pour soins dentaires le soit par un dentiste attaché à l'hôpital Un médecin attaché au service médical de l'hôpital sera responsable de l'examen médical et des soins médicaux du patient".

—A sanctionné la création d'un service consultatif comme partie intégrante des programmes d'assurance.

—A confirmé la nomination du Dr J. B. Taylor comme trésorier de l'Association.

—A recommandé qu'une firme d'experts conseils fasse une étude de l'administration du siège social de l'ADC



On a déjà commencé l'inscription pour le prochain congrès national qui aura lieu à Ottawa du 30 septembre au 2 octobre 1971.

(à un coût ne dépassant pas \$2,000) et recommande le genre et le nombre d'employés requis pour mener les affaires de l'Association.

—A recommandé que le Conseil Exécutif organise un comité spécial afin d'étudier l'emplacement futur du siège social de l'ADC.

—A loué le Conseil d'hygiène dentaire publique d'avoir institué la production d'un film éducatif sur la dentisterie à l'intention des élèves des écoles secondaires.

—A réitéré son appui de la fluoration.

—A terminé le moratorium sur la reconnaissance de nouvelles spécialités et sections.

—A autorisé l'initiation d'un programme national en relations publiques au nom de la profession dentaire tel que proposé par les consultants en relations publiques de l'ADC, Carleton Cowan Ltd.

—A nommé le Dr E. J. Fox, d'Ottawa, au Sous-comité de taxation du Conseil Exécutif. Le Dr Fox aura la responsabilité spéciale des tarifs et des taxes de vente sur les fournitures et l'équipement dentaires.

—A augmenté la cotisation des membres associés à \$20 à partir du 1^{er} janvier 1971.

—A confirmé les villes et les dates suivantes du Congrès National de l'ADC: Vancouver, du 27 sept au 3 oct,

1973; Windsor, Ont, du 30 sept au 4 oct, 1974.

—A publié une déclaration remarquant que l'emploi du tabac augmente la susceptibilité des tissus buccaux à la maladie et est incompatible avec l'hygiène dentaire.

Les programmes et les services de l'ADC sont coupés afin d'équilibrer le budget

Le trésorier de l'ADC, le Dr J. B. Taylor, a présenté au Conseil Exécutif les prévisions budgétaires pour l'année 1971, qui indiquent des revenus de \$339,500, des frais de \$474,400 ce qui donne un déficit de \$74,900.

Ce déficit ne peut être comblé que par une augmentation des revenus, l'empiètement sur le fonds de réserve ou la réduction des frais ce qui forcerait la diminution des services. Le trésorier a mis l'ADC en garde contre ces deux derniers choix qui affaibliraient sérieusement l'efficacité de l'Association. Il a ajouté que le fonds de réserve serait épuisé d'ici 1973 si les déficits actuels continueront tels que prédit.

"Je présente les prévisions budgétaires des revenus et des dépenses pour l'année 1971, et bien que j'appuie complètement le besoin et les avan-



Les dentistes de l'Est et de l'Ouest ont défini les nouvelles lignes de conduite régissant les auxiliaires et l'assurance-maladie, au cours des réunions du comité de référence.

tages de chaque dépense, à cause de notre situation financière actuelle et projetée, je me vois incapable de recommander l'adoption de ce budget", a déclaré le trésorier.

Le Bureau des Gouverneurs a ensuite coupé \$75,700 des différents programmes et a recommandé l'adoption d'un budget révisé qui indique des dépenses de \$398,700 et un excédent de \$800.

Le Dr Spence devient président; le Dr Bernier est choisi président désigné

Le Dr W. J. Spence, de Toronto, a été investi en tant que 51^e président de l'ADC. Il succède à H. R. MacLean, d'Edmonton.

Le Dr Spence, un orthodontiste, est né et a été éduqué à Toronto. Il a servi comme pilote dans l'Aviation Royale Canadienne pendant la deuxième guerre mondiale et il en a pris sa retraite en octobre 1945 avec grade de lieutenant.

L'année suivante il s'inscrivait à la Faculté de chirurgie dentaire de l'Université de Toronto, et recevait le doctorat en 1951. Il obtenait sa maîtrise de l'Université Northwestern, à Chicago, en 1953.

Dentiste consultant en orthodontie auprès de la Faculté de chirurgie dentaire de l'Université de Toronto, le Dr Spence a également servi au Toronto Hospital for Sick Children et en tant que directeur de l'Institut des fissures palatines de l'hôpital.

Le Dr Spence a servi les organisations dentaires dans des fonctions diverses: comme conseiller de la North Toronto Dental Society de 1955 à

1956; secrétaire de la Société canadienne de dentisterie pour enfants de 1956 à 1957; président de l'Omicron Chapter de la Fraternité Xi Psi Phi de 1957 à 1959; président du Toronto Orthodontic Study Club en 1961. Gouverneur de l'Association Dentaire de l'Ontario de 1962 à 1969, il était élu président de l'ADO en 1967. Il a représenté l'ADO auprès du Bureau des Gouverneurs de l'ADC depuis 1967. La même année il fut élu au Conseil Exécutif de l'ADC. Il est également membre du Collège International des Chirurgiens-Dentistes.

Les passe-temps favoris du Dr Spence sont le golf, le curling et la peinture. Plusieurs de ses oeuvres ont déjà été exposées aux salons artistiques de l'ADC.

Un autre orthodontiste, le Dr Louis Bernier de Québec, a été choisi président désigné. Le Dr Bernier a été nommé au Bureau des Gouverneurs de l'ADC en 1965 et au Conseil Exécutif en 1968. Il est membre du Collège International des Chirurgiens-Dentistes et du Collège Royal des Chirurgiens-Dentistes du Canada.

Le Conseil Exécutif

Les membres nouvellement élus au Conseil Exécutif sont: H. M. Jolley, de Toronto, et D. K. Peters, de St-Jean, Terre-Neuve, qui entrent au Conseil pour la première fois. (Les autres candidats étaient E. J. Siegel, de Toronto; J. E. Merritt, de Halifax; et H. L. Mussells, de Montréal.) Font aussi partie du Conseil: le président W. J. Spence, le président sortant H. R. MacLean et le président désigné Louis Bernier: également J. E. Abra, de Winnipeg et L. E. English, de Kamloops, en Colombie Britannique.

Les présidents des conseils

Ont été élus présidents des conseils: E. F. Allison, Calgary, Services auxiliaires; K. I. Levinson, Toronto, Communications; Rémy Langlois, Québec, Constitution et règlements; P. E. Currie, London, Services dentaires; K. J. Paynter, Saskatoon, Enseignement; R. M. LeBlanc, Montréal, Ethique professionnelle; J. Kreutzer, Toronto, Immeuble du secrétariat; P. T. Smylski, Toronto, Services hospitaliers; D. C. Way, London, Assurances et placements; M. M. Derrick, Ottawa, Législation; Louis Bernier, Québec, Nominations; K. W. Davey, Toronto, Hygiène dentaire publique et dentisterie préventive; et L. E. Francis, Montréal, Recherche.

P. S. Christie, de Halifax, a été réélu président de séance du Bureau des Gouverneurs.

Membre honoraire

Le Dr C. Gordon Watson, de Chicago, Directeur général de l'Association Dentaire Américaine, a été nommé membre honoraire de l'ADC.

Parmi les visiteurs et les invités d'honneur on notait:

Docteur et Mme J. M. Deines, de Seattle, Washington. Le Dr Deines est président désigné de l'Association Dentaire Américaine.

M. et Mme W. R. Weatherston, de l'Île de Tiree, en Ecosse. M. Weatherston est président du West Scotland Branch de l'Association Dentaire Britannique.

Docteur Harold Hillenbrand, de Chicago. Le Dr Hillenbrand est président désigné de la Fédération Dentaire Internationale.

Docteur et Mme D. L. Kippen, de Winnipeg. Le Dr Kippen est président de l'Association Médicale Canadienne.

Docteur C. Gordon Watson, de Chicago, Directeur général de l'Association Dentaire Américaine.

Docteur Hugo Kulstad, de Bakersfield en Californie, premier vice-président de l'Association Dentaire Américaine.

Le Dr MacLean propose que l'ADC s'installe à Ottawa

La profession dentaire doit trouver des moyens de rendre ses services "à un prix que le public peut payer", a déclaré le président sortant H. R. MacLean, devant les membres de l'ADC à Winnipeg.

Dans son discours présidentiel adressé au congrès national de l'ADC, le Dr MacLean a précisé que "les organisations professionnelles doivent s'occuper des soins de santé, sinon les non-professionnels employeront le mandat que le peuple leur a donné et prendront des dispositions pour que ces services de santé soient rendus par l'entremise du gouvernement".

"Je crois qu'il nous faut laisser savoir aux gouvernements, à tous les niveaux, que la dentisterie désire être engagée," a dit le Dr MacLean.

Le Dr MacLean a ajouté que l'ADC devrait coopérer plus étroitement avec les agences de santé actuelles et toute nouvelle agence qui sera peut-être créée, puisque "l'une d'elle pourrait devenir celle qui proposera un programme national de services dentaires complet ou partiel".

Vu que les relations entre la profession et le gouvernement deviennent plus importantes, le Dr MacLean a proposé que l'ADC étudie la question de transférer son secrétariat de Toronto à Ottawa.

Il a déclaré qu'en transférant l'ADC à Ottawa, l'Association peut être rendue plus visible "aux agences et organisations qui démontrent un nouvel intérêt envers la dentisterie, tels que le gouvernement, les syndicats, les bureaux nationaux de l'enseignement, de la recherche et de l'industrie. Tous ces organismes s'occupent de plus en plus de planifier les services de santé.

"Beaucoup trop souvent", a ajouté le Dr MacLean, "la dentisterie est absente lorsque les projets sont élaborés simplement parce qu'elle ne semble pas être là lorsque les programmes et les concepts débutent".

Le Dr MacLean a signalé également que le personnel actuel et les installations de l'ADC à Toronto "sont totalement insuffisants". Il a dit qu'une étude des organismes provinciaux qui sont membres de l'ADC indique que la majorité est en faveur du transfert à Ottawa.

En réponse au Dr MacLean, l'Association a nommé un comité spécial pour déterminer les avantages et les désavantages de déménager le secrétariat de l'ADC à Ottawa. Le comité devra étudier les facteurs suivants: les avantages d'être plus proche du gouvernement fédéral; les implications financières d'un tel déménagement; la comparaison des frais de fonctionnement à Toronto et à Ottawa; l'immeuble, l'achat et la location des bureaux; la vente de la propriété à Toronto; l'observation d'autres associations nationales qui ont récemment déménagé à Ottawa; la représentation de l'ADC à Ottawa au cas où le siège social de l'Association reste à Toronto; et les facilités pour sortir le Journal à Ottawa.

Le président sortant de l'ADC a conseillé fortement que le rôle de la recherche économique au sein de l'association soit renforcé.

"Il n'y a guère un domaine qui reçoive moins d'attention que la recherche économique, bien que peu soient plus importants", a-t-il dit aux délégués. Il a demandé que l'ADC intensifie ses efforts dans ce domaine.

Le Dr MacLean a également conseillé que les étudiants dentaires soient admis dans l'ADC durant leurs deux dernières années d'études comme membres sans droit de vote. Une telle mesure offrira à l'étudiant la possibilité de "se familiariser avec notre organisation et nos activités". On espère que cette expérience aidera à former de meilleurs représentants de notre profession.

Le Dr MacLean a aussi discuté du rôle que joue l'Association Dentaire Canadienne comme représentante nationale de la profession dentaire.

"Nous comprenons que les affaires concernant nos organisations provinciales demandent actuellement beaucoup d'attention, mais il est toujours essentiel que nous soyons plus représentatifs et que nous nous organisations plus efficacement sur le plan national", a-t-il dit.

"Il nous faut reconnaître les responsabilités de l'ADC et son rôle essentiel dans la direction des politiques nationales. Nous devons être prêts à contribuer nos fonds afin d'assurer que cette organisation fonctionne aussi efficacement que possible".

"À l'avenir, nous tiendrons probablement à changer la structure des membres et de notre organisation intérieure. Les deux points sont maintenant à l'étude. L'Association Dentaire Canadienne ne peut qu'être la plus puissante organisation représentant la dentisterie. La dentisterie peut se le permettre — une position secondaire ne nous est pas permise".

Si grande est notre paresse, inaccoutumés que nous sommes à chercher des idées ou des mots, que souvent nous aurions quelque inclination à penser d'une manière: nous parlons d'une autre, non par modestie, non par timidité, mais parce qu'il est plus commode de répéter une phrase apprise que de créer pour une pensée personnelle une forme originale.

Peut-être est-ce là le secret de l'influence immense qu'exercent les jour-

naux et les critiques. Ce n'est ni l'ascendant de l'esprit, ni la force du raisonnement qui séduisent le public: mais ils fournissent, toute préparée pour l'usage, la formule qui juge le dernier événement politique, la dernière oeuvre littéraire. Eût-on quelque velléité de sentir autrement, fût-on convaincu même que la vérité des faits y oblige, la phrase est là, si tentante, si facile à prendre; il est si commode de la ramasser; on a si peu le loisir, si peu l'habi-

tude de sentir sa propre pensée et d'en chercher l'exacte formule, qu'on se laisse aller; et l'on dit blanc quand on eût pensé noir si l'on n'avait pas lu son journal. Le pis est qu'on ne s'en aperçoit pas et que l'on croit bien véritablement exprimer son sentiment personnel; on s'y affermit, on en conçoit la vérité en le voyant partagé par tant d'autres, qui lisent aussi le journal. — Gustave Lanson, Conseils sur l'art d'écrire.

Canada and the Provinces

Manitoba association proposes dental plan for Children's Aid Society

The Manitoba Dental Association has proposed a voluntary dentists' adoption plan whereby Manitoba dentists will provide free dental service to a child "adopted" through the Children's Aid Society.

The proposal, named the Dental Adoption Plan, may eventually involve about 200 dentists and several hundred children in all parts of the province.

The young patients will be referred to the association by various welfare agencies. Volunteer dentists will assume the responsibility for providing children with routine dental service and treatment from ages four or five when possible and on through adolescence.

The dentists' wives auxiliary will also be involved in transporting the children for necessary check-ups and appointments.

International Items

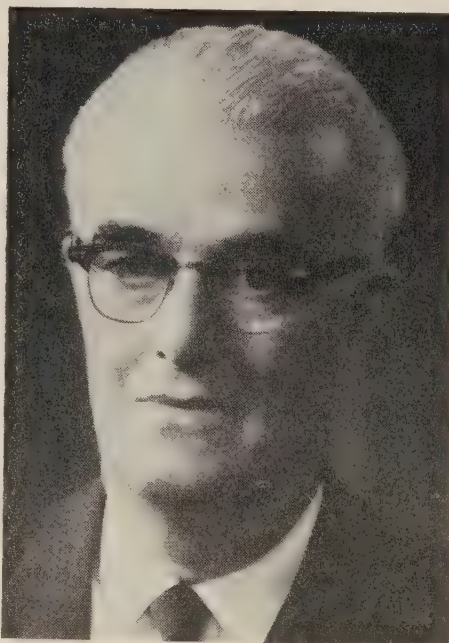
Doctor Gullett to receive Pierre Fauchard Academy international award

Former CDA Secretary Don W. Gullett has been selected by the Pierre Fauchard Academy as this year's recipient of its Elmer S. Best Memorial Award. Formal presentation will be made at the American Embassy residence in Ottawa, September 14, by the Hon. A. W. Schmidt, US Ambassador to Canada.

The Elmer Best Award goes annually to the most "outstanding contributor to the arts and sciences of dentistry outside the continental United States. Doctor Gullett is the second Canadian to gain this signal honour. In 1965 the recipient was C. H. M. Williams of Toronto.

Doctor Gullett was secretary of the CDA for 22 years from 1942 to 1964. Now CDA archivist, he has written a "History of Dentistry in Canada" which is to be published shortly for the CDA by the University of Toronto Press.

The Pierre Fauchard Academy, organized in 1936, is an honorary organization with a world-wide membership dedicated to the improvement of dentistry and service to the profession. Its name commemorates Pierre Fauchard, an eighteenth century French dentist, regarded by many as the father of modern dentistry.



Don W. Gullett

Ontario dentist serves in Caribbean

G. B. Shillington of Manotick near Ottawa is the first Canadian dentist to take up a dental aid assignment in the Caribbean area. The former Canadian Forces Dental Services colonel spent the month of June in the Turks and Caicos Islands, southernmost group in the Bahama chain, where he replaced the region's only dentist during a period of leave.

Doctor Shillington served under the dental aid program co-sponsored by the Canadian Dental Association and Canadian Executive Service Overseas

(see also "Playground with a Problem," page 127, April Journal). His services were so well received that the Turks and Caicos administration has made a further request for dental assistance from Canada.

In charge of the CDA-CESO dental aid program is the committee headed by G. E. Burgman of Niagara Falls, Ont. The committee is enlisting volunteers and interested readers should write to Doctor Burgman at 1709 Main St, Niagara Falls, Ont.

Indiana symposium to forecast state of dentistry in the year 2000

Internationally known speakers will project their conception of dentistry 30 years hence at a special symposium sponsored by the Indiana University School of Dentistry October 14. The event, titled "Dentistry-Year 2000," and commemorating the university's sesquicentennial, will be held at the new Hilton Hotel in Indianapolis.

Participants and their topics include: Joseph Volker, president, University of Alabama at Birmingham, who will discuss health sciences.

A. L. Morris, vice-president, University of Kentucky, speaking on dental education.

Seymour Kreshover, director, US National Institute for Dental Research, who will predict trends in dental research.

C. O. Dummett, assistant dean, University of Southern California School of Dentistry, speaking on community dentistry.

B. W. Pavone, dean, University of California School of Dentistry, who will discuss future trends in dental practice.

The closing dinner will be addressed by Denton Cooley, noted heart implant surgeon from Houston. His topic will be "New Synthetic Materials as Prostheses and Replacement of Heart and Blood Vessels."

For further details, please write to R. W. Phillips, Indiana University School of Dentistry, 1121 West Michigan St, Indianapolis, Indiana 46202, USA.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on June 30:

Fixed Income Fund \$10.090;

Common Stock Fund \$17.914.

Total assets (market value) of the plan were \$7,688,994.16.

The following portfolio purchases and sales occurred during the preceding month: bought 1,500 shares Bank of Nova Scotia and 2,000 shares Royal Bank of Canada; sold 4,000 shares Beverly Enterprises.



The recipients of fellowships at the June 30 Winnipeg meeting of the International College of Dentists, Canadian Section, are pictured above. Back row (left to right), R. B. De Ware, Moncton, NB; Z. Kasloff, Winnipeg; A. D. McKee, Dauphin, Man; S. M. Borden, Winnipeg; H. H. Saunderson, Winnipeg; J. V. P. Chatwin, Ottawa; F. W. Parrott, Portage la Prairie, Man; D. W. Henry, Montreal; and M. M. Woronuk, Fairview, Alta. Front row (left to right), J. P. Beattie, Winnipeg; W. I. Jackson, Winnipeg; T. M. Curry, Regina; W. J. Riley, Winnipeg; S. G. Geldart, Edmonton; G. C. Evans, Edmonton; and N. A. Winograd, Winnipeg.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Dental Organizations

Doctor Cormier heads New Brunswick society

G. A. Cormier, Moncton, was elected president of the New Brunswick Dental Society May 30. He succeeds L. G. Zed, Saint John.

C. A. Hayward, Chatham, was named vice-president. G. R. Rowe, Nashwaak-sis, continues as registrar-secretary. J. F. Edgecombe, Saint John, was named honorary president.

G. G. Orser, Fredericton, was named delegate to the Canadian Dental Association Board of Governors, while his alternate is M. J. Crompton, Moncton.

R. B. De Ware, Moncton, is the representative to the National Dental Examining Board of Canada. His alternate is G. L. Ramsay of Saint John.

PEI association has new officers

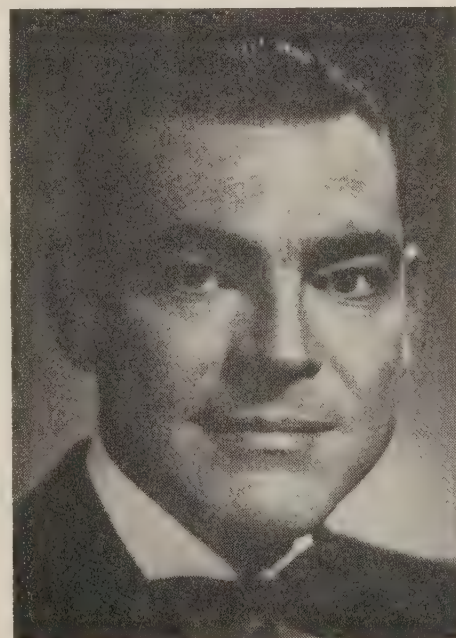
O. E. Dalton, Summerside, is the new president of the Dental Association of Prince Edward Island. He succeeds H. C. Stewart of Kensington. B. J. O'Meara, Charlottetown, is vice-president and A. L. MacLean, Summerside, is secretary-registrar-treasurer. Council members are G. D. Barrett, Charlottetown, and J. R. Robertson, Summerside. J. A.

Doiron, Summerside, is the PEI representative to the CDA Board of Governors.

Alberta associations choose new officers

J. Calvin Waddell, Calgary, is the new president of the Alberta Dental Association. He succeeds A. D. Sparrow, also of Calgary. J. E. L. Mathieson of Edmonton is president-elect.

Dental societies in Edmonton and Calgary also have new executives. R. C. McClelland, a staff member of the Uni-



G. Allen Freeze of North Vancouver is the new president of the College of Dental Surgeons of British Columbia. Doctor Freeze assumed office on July 20.

versity of Alberta, is the new president of the Edmonton and District Dental Society. He succeeds D. S. Gilmour. G. N. Findlay heads the sister organization in Calgary.

Forensic dentistry group elects officers

J. D. Purves, Toronto, has been elected as the first president of the Canadian Society of Forensic Odontology. President-elect is E. A. White, also of Toronto. Knut Pedersen, London, Ont, is secretary-treasurer.

The new society held its founding meeting July 2 during the Canadian Dental Association's national convention in Winnipeg.

More than 40 replies were received in response to the original founding proposal published in the February CDA Journal. Thirteen dentists attended the founding meeting in Winnipeg.

Doctor Purves reported that Ontario's chief coroner, H. B. Cotnam, has expressed interest in working with the new society. The CSFO will therefore initiate a working nucleus in Toronto which could spark the formation of similar regional and provincial groups elsewhere. K. F. Pownall, Toronto, was named as councillor to form this first group. Plans were also laid for an early workshop conference.

Quebec City dentists elect Doctor Houle

Gérard Houle was named president of the Quebec City Dental Society on May 2. He succeeds Guy Maranda.

Elected as members of the Executive Council were: Jean-Louis Bertrand,

Jean-Claude Giguère, Pierre Marchand, Conrad Audy, Amyot Langlois, Marcel Demers, Georges Gagnon and Ian Mac-kay.

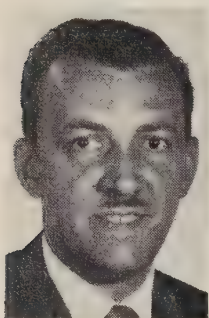
Montreal society chooses new officers

Léon Daigle is the new president of the Société Dentaire de Montréal. He succeeds Jacques Matteau.

René Bourcier is president-elect and P.-J. Trudeau is vice-president.

Other officers are Denis Laflamme, treasurer; André Leblanc, public relations director; André Provost, secretary; T. E. Draper, assistant secretary; and Jacques Matteau, adviser.

Elected as councillors are Gilles Leduc, Pierre Dupéré, Armando Simard and Benoit Parent.



Léon Daigle



Edward Slapcoff

Doctor Slapcoff is president of Montreal Alpha Omega

The Montreal Chapter of the Alpha Omega Fraternity and the Mount Royal Dental Society have a new president in the person of Edward Slapcoff who succeeds Melvyn Shevell. Other officers elected for 1970-71 are A. S. Wainberg, vice-president; Herbert Ptack, corresponding secretary; M. P. Tenenbaum, recording secretary; L. L. Prosterman, treasurer; and David Zacharin, historian-archivist.

Doctor Millar installed as president of Canadian oral surgeons

A Montreal dentist, E. P. Millar, has succeeded P. T. Smylski of Toronto as



E. P. Millar

president of the Canadian Society of Oral Surgeons. A. E. Swanson, Vancouver, is president-elect and K. C. Bentley, Montreal, is secretary-treasurer.

Councillors elected were: Atlantic Provinces, F. W. Lovely, Halifax; Quebec, P. Surprenant, Sherbrooke; Ontario, H. F. Biewald, Ottawa; Prairie Provinces, S. M. Claman, Winnipeg; and British Columbia, P. H. Trester, Vancouver.

Regional Conventions

Montreal Fall Clinic program set

Two pre-convention seminars will precede the annual Fall Clinic of the Montreal Dental Club at the Queen Elizabeth Hotel, October 26-28.

E. I. Scrivener, Lexington, Kentucky, will discuss preventive dentistry for the general practitioner, October 24-25. Claude Durand and Jacques Bégin, Montreal, will conduct French language seminars in periodontics and practice administration, October 25.

The following schedule of clinical lectures has been arranged for the Fall Clinic:

R. F. Harvey, Montreal, "Periodontics;"

Harold Englander, Bethesda, Maryland, "Plaque and Caries Control;"

D. R. Kramer, New Rochelle, NY, "Practical Considerations of Shade Control for Porcelain on Gold;"

H. C. Lundeen and Carl Wirth, Lexington, Kentucky, "Articulator Concepts;"

Paul Mercier, Montreal, "Advanced Prosthetic and Orthodontic Surgery;"

A. G. Richards, Ann Arbor, Mich, "Marvellous Changes in Dental Radiology;"

Harry Langa, New York City, "Relative Analgesia in Dental Practice;"

John Vincelli, Montreal, "Concept of Occlusion Based on Force Control;" and

L. A. Weinberg, New York City, "Latest Developments in Crown and Bridge Prosthodontics."

Harold Hillenbrand, executive director emeritus of the American Dental Association and president-elect of the Fédération Dentaire Internationale will address one of the two scheduled luncheons. The speaker at the second luncheon will be George Springate, ex Montreal policeman, lawyer, McGill University football player and a member of the Quebec National Assembly.

The ladies' program includes a visit to Earl Moore's Canadiana Village at Rawdon, Que, and a live demonstration of cuisine by Pol Martin, one of Montreal's outstanding chefs.

For further information and preliminary programs, write Miss M. Komarnicka, 4166 St. Catherine St West, Montreal 215, Que.

Oral surgery seminar in Toronto Oct 9

The Ontario Society of Oral Surgeons will sponsor a one day seminar at the Westbury Hotel, Toronto, from 8:30 am to 4:00 pm on Friday, October 9. Oral surgeon, L. W. Kay of the Eastman Dental Hospital, London, England, will discuss drugs in oral surgery and their relation to systemic disease and pre-prosthetic surgery. Pre-registration is required for non-members. The enrol-

James McCutcheon, right centre, new dean of the Faculty of Dentistry, University of Alberta, was guest of honour June 17 at a reception tendered by the Montreal Dental Club and the Mount Royal Dental Society to mark his departure from a similar post at Montreal's McGill University. Pictured with Dean McCutcheon are, left to right, G. M. Dundass, president of the Montreal Dental Club; Mrs. James McCutcheon; and Edward Slapcoff, president of the Mount Royal Dental Society.



ment fee of \$20 includes luncheon and should be sent before October 5 to Paul Chapnick, 265 St. Clair Ave W, Toronto 7, Ont.

Toronto Alpha Omega slates preventive dentistry seminar Nov 10-11

Robert Barkley will present "The New Look in Preventive Dentistry" when the Alpha Omega Continuing Education Seminar is held at the Ontario Science Centre, Toronto, November 10-11. The enrolment fee is \$50 if paid by October 15. Otherwise the fee is \$60. Further information may be obtained by writing to H. L. Freedman, Suite 303, 2828 Bathurst St, Toronto 19, Ont.



Dental Education

Bower appointed CFDE chairman

M. E. Bower, Toronto, former president of the Dental Company of Canada Ltd (Denco), has been named chairman of the Board of Trustees of the Canadian Fund for Dental Education. He succeeds J. D. McLean, dean of Dalhousie University dental faculty, Halifax.

Appointed to succeed retiring trustees Louis Lepine, Montreal, and H. W. Reid, Toronto, were Henri Brouillet, Montreal, and M. G. Boyes, Toronto.

Four additional new trustees have also been named. They are: Sheppard



Several officers and guests enjoy a laugh during a reception tendered by the Canadian Fund for Dental Education in Winnipeg. Top picture, from left: Ivan Hrabowsky, St. Catharines, Ont, Ontario Dental Association president; D. M. MacDonald, Toronto, CFDE executive director; John Bull, Toronto, vice-president, Colgate Palmolive Co; D. W. Gullett, Toronto, former CDA executive director; A. J. Shinoff, Winnipeg, Manitoba Dental Association president; J. D. McLean, Halifax, and M. J. Lipkind, Calgary, CFDE trustees; and W. G. McIntosh, CDA executive director. Lower picture, from left: H. R. MacLean, Edmonton, outgoing CDA president; Harold Hillenbrand, Chicago, formerly American Dental Association executive director and newly elected CFDE trustee; J. D. McLean and D. M. MacDonald.



M. G. Boyes



Henri Brouillet



M. E. Bower

Margolese, Vancouver; J. D. McLean, Halifax; W. G. McIntosh, CDA executive director; and Harold Hillenbrand, Chicago, former executive director of the American Dental Association and president-elect of the Fédération Dentaire Internationale.

Continuing as trustees are C. E. Peirce, Toronto, president of Ash Temple Ltd, and M. J. Lipkind, Calgary.

Alberta association seeks continuing education requirement

Drastic changes that would require dentists to keep up-to-date with advances in their profession are wanted by the Alberta Dental Association.

The organization placed itself on record for that objective by approving in

principle a resolution seeking the necessary changes in the provincial dental act.

In approving the resolution, the association's board of directors decided to seek changes in the act to require continuing education by every dentist as a prerequisite for the renewal of the annual practising licence.

Relicensing would be done every five years, but each dentist would be required to obtain a certain number of points each year in keeping up-to-date with his profession. He would not be allowed to accumulate all necessary points during the fifth or any single year in the five year period.

A. D. Sparrow of Calgary, outgoing president of the Alberta association, says the object of requiring continuing education "is to protect the public with up-to-date techniques in dentistry."



G. Z. Wright



A. W. Eastwood



J. P. Sapp



D. W. Banting

Five new staff appointments have been announced at the University of Western Ontario, London. A. W. Eastwood has been named professor of orthodontics. Born in Russia, he holds degrees from Liverpool University, England, the University of Michigan and Dalhousie University, Halifax, where he was professor of orthodontics since 1965. G. Z. Wright, formerly of Winnipeg and a 1960 graduate of the University of Toronto, has joined the UWO Department of Paediatric Dentistry as assistant professor. J. P. Sapp has been appointed assistant professor of pathology in the Faculties of Medicine and Dentistry. A native of Liverpool, NS, he earned degrees from Dalhousie University and the University of Michigan. D. W. Banting has been named assistant professor in the Department of Social Dentistry. Born in Biggar, Sask, he holds dental and public health degrees from the University of Toronto. George Goto of Tokyo has joined UWO's Department of Restorative Dentistry as visiting assistant professor to develop a research program in pulp biology. Before coming to Western, Doctor Goto was assistant professor of paedodontics at the Tokyo Dental College.

lieved fluoridation would cause harm. Supreme Court Justice McIntyre, after listening to a tape recording of the discussion, held that Doctor Bonham did not make the statement attributed to him.

He concluded that the words used in the advertisement were capable of a defamatory meaning. He said they would convey to the ordinary reasonable man that Doctor Bonham had advocated as a public health measure a proposal which he knew would cause kidney damage to some people.

"To say of a doctor, particularly one charged with the supervision of public health, that he recommended a course of action which could cause harm to part of the public would in my opinion discredit him in the eyes of reasonable men," the judge said.

Ontario's health minister backs fluoridation

Ontario's health minister, T. L. Wells, has added his support to water fluoridation.

In a message marking the 25th anniversary of fluoridation, Mr. Wells praised the forward-thinking residents of Brantford who pioneered in this important preventive health measure and made their community the first in the Commonwealth to fluoridate its water supply.

Fluoride cuts caries in Toronto

The number of Toronto five year olds who did not need dental treatment rose 37 per cent in the five years from 1963, when fluoridation began, until 1968, according to a series of reports received by Toronto's Metro Executive Committee June 23.

All pointed to improvements in dental health since fluoridation began.

The number of five year olds who lost teeth from decay declined by 50 per cent, the Toronto report said.

Beneficial effects were also observed in older children who were born before the start of fluoridation. The number of nine year olds among this group who had never suffered tooth decay increased by 50 per cent.

"There is no doubt that the addition of an infinitesimal amount of fluoride to the water supply has produced a great improvement in the dental health of children," a companion report from North York said.

"This achievement becomes more significant when it is considered that this reduction in dental caries has been effected even though the per capita consumption of sugar continues to increase."

A report from Etobicoke said that no side effects such as mottling have been observed in that borough.

11 dentists earn Royal College fellowships

The Royal College of Dentists of Canada has conferred fellowships on 11 dentists in recognition of their achievements in various dental specialties. The ceremony was held in a convocation during the closing sessions of the Canadian Dental Association national convention in Winnipeg.

The fellowships brought to 209 the number bestowed by the College in six years. Only a few hundred of Canada's approximately 7,000 dentists practise in specialties.

Receiving fellowships were: M. G. Badner, Paul Chapnick, V. N. Drenfeld and H. I. Taub, all of Toronto; R. M. Perry and G. W. Street, Calgary; R. L. Tegart and R. S. Margolis, Edmonton; and V. B. Griffiths, Roxboro, Que.

J. M. Grahame, Winnipeg, and R. G. Ellis, Toronto, were named honorary fellows. Doctor Grahame, now retired, is a former president of the Manitoba Dental Association. He and Doctor Ellis, former dean of the University of Toronto Faculty of Dentistry, received the honorary academic titles in recognition of their contributions to Canadian dental health.

Educational opportunities

Advanced programs

Advanced programs are offered by the Tufts University School of Dental Medi-

cine in oral surgery, periodontics, prosthodontics, oral pathology, endodontics and radiology. Applicants may pursue courses leading to a certificate or a master of science degree, concomitant with specialty training. Programs in oral surgery, periodontics, oral pathology and endodontics have preliminary provisional approval from the Council on Dental Education of the American Dental Association. Direct inquiries to George Mumford, Associate Dean, Tufts University School of Dental Medicine, 136 Harrison Ave, Boston, Massachusetts 02111, USA.

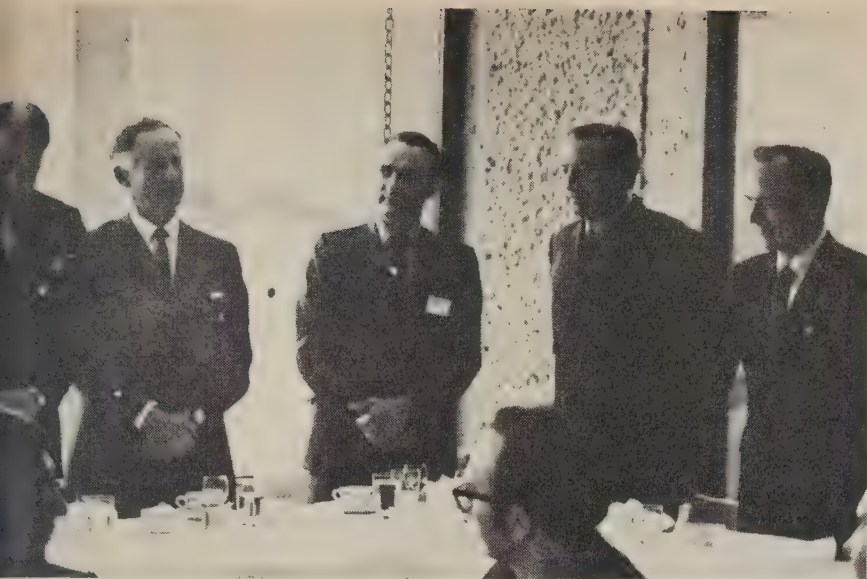
Fluoridation

Vancouver physician wins \$1,000 fluoride libel damages

Vancouver Medical Health Officer Gerald Bonham has been awarded \$1,000 libel damages by the British Columbia Supreme Court against the local Pure Water Association.

Doctor Bonham sued the association after it ran a series of newspaper advertisements during the campaign leading up to the 1968 fluoridation vote in which it claimed the Vancouver public health officer on a radio program had "admitted" that fluoridation would cause kidney damage in some people.

At the trial, Doctor Bonham denied that his comments about fluoridation on the radio program indicated he be-



Delegates to the sixth Canadian Conference on Dental Research and annual meeting of the Association of Canadian Faculties of Dentistry in Vancouver, June 24-26, found time to exchange greetings between sessions. Here several chat before the annual dinner. They are: G. F. Copithorne, Vancouver; M. J. T. Dohan, Victoria; D. V. Chaytor, Halifax; R. V. Blackmore, Edmonton; W. H. Feasby, London; J. D. Spouge and S. Wah Leung, Vancouver; and J. D. McLean, Halifax.

Research

Oral cancer linked to heavy drinking

A California dental educator has indicated that oral cancer is linked to alcoholism and heavy drinking.

A. M. Abrams, chairman of the pathology department at the University of Southern California's School of Dentistry, says the alcoholic has a much

greater chance of developing the disease, and the percentage of oral cancer cases among heavy drinkers is significantly higher than among moderate or non-drinkers.

Although there are no exact statistics, Doctor Abrams said that his contention is based on a growing conviction by other oral pathologists as well as his own observations.

"We don't know why heavy drinking is linked to oral cancer. It may be because excessive amounts of alcohol cause a local irritation of tissues in the mouth, or that malnutrition and defective metabolism—which are frequently associated with alcoholism—render the

tissues more susceptible to cancer," Doctor Abrams added.

He said that the moderate drinker—the person who regularly has a cocktail or two before dinner—apparently should have no worry about increased chances of developing cancer. "But it's difficult to say how many drinks a day will put a person in danger," he said.

Doctor Abrams noted that the disease does occur in patients who neither drink nor smoke. "One study in San Francisco established that oral cancer in women has doubled in the last 15 years, and that the increase is related to an increase in women's cigarette smoking."

Jean-Paul Lussier delivered the presidential address at the combined ACFD and dental research meetings in Vancouver.



RESEARCH CONFERENCE HELD AT UBC

For three days, Vancouver's University of British Columbia was the focal point for Canada's dental research community when scientists from coast to coast met June 24-26 for the sixth Canadian Conference on Dental Research. Support for the conference came through the Canadian Fund for Dental Education with assistance from Procter and Gamble, Warner Lambert, Wm. Wrigley Co, Smith Kline & French Interamerican Corp, Astra Pharmaceuticals and Canadian Kodak Co.

Participants presented numerous papers on the most recent advances in

dental research. Following are résumés of some of the papers.

Agent prevents bacteraemia

Two McGill University scientists reported that clindamycin (Dalacin C), a new antibiotic, is more effective than other agents in preventing transient bacteraemias during traumatic dental manipulations.

Joan deVries and L. E. Francis said the finding is particularly significant for patients with cardiac valvular disease who may otherwise develop subacute

bacterial endocarditis as a consequence. Penicillin is usually recommended for prophylactic use in these patients and erythromycin for those who are penicillin-sensitive.

Radiographic aid

F. W. Musaph and E. P. Wickland of the University of British Columbia, Vancouver, described a new chin support for panoramic x-ray machines. Purpose of the device is to hold all jaw segments, especially the anterior region, within the machine's image layer.

Doctor Musaph said the support consists of a 4.6 mm wide plane engraved on plastic, describing an arc of 102.5° with a radius of 30 mm.

A bitefork is used to estimate the vertical extension of this plane. To aid positioning of the patient, the bitefork has four grooves above and below; three of these correspond to the outer, middle and inner lines of the focal plane, while the fourth is located more anteriorly. The decision to show a sharply defined crown or root outline in extreme protrusions determines the position of the patient's teeth in the bitefork.

A second fork has a metal marker which indicates the centre of the image layer. This fork is used for radiographs depicting the teeth in centric occlusion and for repeating radiographs.

Halitosis

Putrefaction processes within the oral cavity may be the source of malodorous sulphur components of mouth air.

Using gas chromatography, J. Tonze-lich, of Vancouver's University of British Columbia, found organoleptic concentrations of three sulphur-containing compounds in mouth air. Two of the compounds, which account for approximately 90 per cent of the total sulphur content, are hydrogen sulphide and methylmercaptan. The third, a minor compound, has been tentatively identified as dimethyl sulphide.

All three compounds emanate an objectionable putrid odour. They correspond to volatile sulphur products of plaque degradation and were detected in whole saliva that had undergone 60-90 minutes' putrefaction.

Teeth and bone growth

A University of Western Ontario scientist showed that the lower border of the mandible is not a stable reference plane for measuring the eruption of mandibular teeth.

W. H. Feasby used mandibular tracings from cephalographs obtained at four to five year intervals. He superimposed the tracings on a tangent to the inferior border of the last molar crypt (until root formation began) and the inner cortical surface of the symphysis.

The lower border of the molar crypts coincided for each superimposition with registration on the symphysis but there was an upward transposition of the lower border of the mandible posterior to the first bicuspid.

Doctor Feasby found that the mean annual upward shift of the mandibular plane from cuspid to first molar ranged up to 0.6 mm.

Another scientist, B. K. Arora, Saskatoon, found that denervation of the muscles of mastication has little apparent influence on growth and development of the jaws.

The University of Saskatchewan scientist reported how 1 cm of the mandibular branch of the trigeminal nerve was excised unilaterally in 14 day old swine. The nerve tissue was cut as it emerged from the cranial cavity. The animals were sacrificed at age intervals of nine, 12 and 18 weeks. There were very few morphological dissimilarities between operated and unoperated sides and between operated and control animals, he said.

Parathyroids and lamina dura

An oral surgeon at Dalhousie University, Halifax, said that resorption of the lamina dura is "highly" indicative of primary or secondary hyperparathyroidism, but the presence of lamina dura does not rule out parathyroid malfunction.

F. W. Lovely said that positive findings are of real significance, whereas negative findings are inconclusive.

Emphasizing the importance of other diagnostic and clinical findings, he said that serum chemistry changes and renal calculus formation are highly indicative of parathyroid disease.

Other research advances reported included:

—Experimental evidence that di-phenylhydantoin gingival hyperplasia involves connective tissue and inflammatory components rather than epithelium.

—A new method for comparing intravenous and intrapulpal effects of various drugs.

—A comparison of blood flow through the pulp (0.7 ml/Gm/min) and the periodontal membrane (0.4 ml/Gm/min).

—Electronmicroscopic observations of cellular ultrastructure in peripheral giant cell granuloma.

Awards and Appointments

J. P. Beattie, Winnipeg, has been named "Manitoba Dentist of the Year." The award is in recognition of Doctor Beattie's outstanding service as chairman of the committee which planned the recent CDA national convention in Winnipeg.



E. R. Ambrose



J. P. Beattie

Honorary membership in the Mount Royal Dental Society has been conferred on **E. R. Ambrose**, chairman of McGill University's Department of Operative Dentistry. The honour is in recognition of Doctor Ambrose's dedication "to the art of teaching dentistry to the science of dental research, to raising the standards of dentistry, and to the welfare of the total dental community."

Recipient of an honorary life membership in the New Brunswick Dental Society is **H. W. MacDonald**. The Saint John dentist has practised in New Brunswick since 1927.

A. V. Calhoun, Edmonton, has become an honorary life member of the Edmonton and District Dental Society.

Deaths

Breton, Hyacinthe. 74. St-Hyacinthe, Qué. Université de Montréal, 1922. 23-5-70.

Charland, Gustave. 68. Montréal. Université de Montréal, 1926. 26-5-70.

Daigneau, Paul Luke. 85. Thetford Mines, Que. McGill University, 1908. 9-5-70.

Farrer, Isaac Keillor. 80. Saint John, NB. Baltimore College of Dental Surgery, University of Maryland, 1915. 26-5-70. Survived by Marjorie (wife); Mrs. John Irving (daughter); William M. (brother); and two grandsons.

McClure, Frederick Davis. 73. Toronto. Royal College of Dental Surgeons of Ontario, 1921. 11-6-70. Survived by Mrs. William H. Garton (daughter); Bob and Patty Garton (grandchildren); Marlin H. (brother); and Corinne (sister).

Strelloff, John. 34. Rosetown, Sask. University of Alberta, 1958. 10-6-70. Survived by Anne (wife), two daughters and one son.

Tousignant, Albert. 71. St-Hyacinthe, Qué. Université de Montréal, 1924. Octobre 1969.

Les actualités dentaires

Le Canada

Les lauréats de l'Exposition scientifique sont honorés par l'ADC

Barbara Tomaszewski, âgée de 17 ans et étudiante de 13^e année du Ursuline College à Chatham, en Ontario, et Robert S. A. Hayward, âgé de 12 ans, en 7^e année au Ottwell Junior High School à Edmonton, ont gagné les deux prix décernés par l'ADC à l'occasion de la 9^e Exposition scientifique canadienne qui s'est tenue à l'Université McMaster à Hamilton du 12 au 16 mai derniers. Les sélections de cette année ont été effectuées au nom de l'ADC par le Dr Ivan Hrabowsky de St. Catharines.

L'ADC est l'un des commanditaires de la Fondation de la Science pour la Jeunesse qui encourage les activités scientifiques au dehors du programme d'études et qui organise chaque année l'Exposition scientifique canadienne.

Dans son exposé intitulé "Le tabac et les organismes vivants" M^{lle} Tomaszewski a démontré que le cerveau et le foie des poussins nouveau-nés peuvent être endommagés lorsque les oeufs fécondés ont été exposés à la fumée pendant des périodes échelonnées d'une demi-heure jusqu'à deux heures et demi.

La présentation de M. Hayward démontrait l'influence d'une carence de vitamines et de protéines chez les gerbilles.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 juin:

Fonds à revenu fixe \$10.090;

Fonds d'actions ordinaires \$17.914

L'avoir total (valeur marchande) du régime se montait à \$7,688,994.16.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 1,500 actions de la Banque de la Nouvelle-Ecosse et 2,000 actions de la Banque Royale du Canada; vente 4,000 actions de Beverley Enterprises.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Chronique internationale

Le Dr Gullett remporte le prix international de l'Académie Pierre Fauchard

L'ancien secrétaire de l'ADC, le Dr Don W. Gullett, a été choisi par l'Académie Pierre Fauchard comme lauréat du prix Elmer S. Best pour l'année 1970. Le prix sera formellement présenté par l'Hon. A. W. Schmidt, ambassadeur des Etats-Unis au Canada, à l'ambassade américaine à Ottawa le 14 septembre.

Chaque année le prix Elmer Best est décerné à "la personne qui a le plus contribué à l'art et à la science dentaire en dehors des Etats-Unis". Le Dr Gullett est le deuxième Canadien ainsi honoré. En 1965 le Dr C. H. M. Williams avait reçu le même prix.

Le Dr Gullett a servi comme secrétaire de l'ADC pendant 22 ans, de 1942 à 1964. Il est maintenant l'archiviste de l'ADC et il est l'auteur d'un livre intitulé "L'histoire de la dentisterie au Canada", qui sera bientôt publié, au nom de l'ADC, par les Presses de l'Université de Toronto.

L'Académie Pierre Fauchard, fondée en 1936, est une organisation honorifique mondiale dédiée à l'avancement de la profession dentaire. Son nom commémore Pierre Fauchard, un dentiste français du 18^e siècle, qui est généralement considéré comme le père de la dentisterie moderne.

Réunion de périodontistes à Montréal en septembre

Les deux Académies de périodontologie canadienne et américaine tiendront leur prochaine réunion annuelle conjointement à Montréal du 16 au 19 septembre. La réunion aura lieu dans les hôtels Bonaventure et Château Champlain.

Le programme scientifique comprendra un examen du statut actuel de la recherche sur le stress, par le Dr Hans Selye, de l'Institut de médecine et chi-

urgie expérimentales de l'Université de Montréal.

Trois séances d'une demi-journée auront pour thèmes les notions actuelles de l'occlusion, le contrôle des maladies périodontaires et les régimes d'assurance-maladie.

Le programme prévoit aussi un forum sur la recherche, des exposés d'étudiants qui achèvent leurs maîtrises et des conférences cliniques.

La participation à cette réunion est ouverte à tout membre de l'Association Dentaire Canadienne sur versement des frais d'inscription. Pour tout renseignement, écrire à: The Secretary, American Academy of Periodontology, Room 924, 211 East Chicago Ave, Chicago, Illinois 60611, USA.

L'enseignement dentaire

Le Dr James McCutcheon succède à H.R. MacLean comme doyen en Alberta

Le Dr James McCutcheon, doyen de la Faculté de chirurgie dentaire de l'Université McGill à Montréal a démissionné pour occuper le même poste à l'Université de l'Alberta à Edmonton. Il succède au Dr H. R. MacLean, président sortant de l'ADC, qui a pris sa retraite le 30 juin.

Le Dr McCutcheon a été diplômé à l'Université McGill en 1945. Trois années plus tard il obtenait sa maîtrise en prosthodontie à l'Université du Michigan. En 1948, il était nommé professeur assistant en prosthodontie à McGill, puis passait successivement aux postes de doyen intérimaire en 1955, de doyen en 1956 et devenait professeur agrégé en 1960.

Le Dr McCutcheon a rempli plusieurs autres fonctions professionnelles. Il était chirurgien-dentiste en chef et directeur du Service dentaire au Montreal General Hospital et il est dentiste consultant en prosthodontie auprès des services dentaires des Forces armées canadiennes. Membre fondateur du Collège Royal des Chirurgiens-Dentistes du Canada, le Dr McCutcheon est également membre fondateur de l'Académie canadienne de prosthodontie et a servi en tant que président du Comité de l'enseignement de l'ADC de 1964 à 1967.

Le Dr Nikiforuk devient doyen à Toronto

Le Dr Gordon Nikiforuk, directeur du Département des sciences biologiques à la Faculté de chirurgie dentaire de l'Université de Toronto, a été nommé doyen de la faculté. Il succède à P. G.

Anderson qui agissait comme doyen intérimaire depuis la retraite, en décembre dernier, du Dr R. G. Ellis.

Le Dr Nikiforuk est revenu à Toronto l'année dernière de la faculté dentaire de l'Université de la Californie à Los Angeles où il avait tenu les postes de doyen intérimaire, professeur de dentisterie pédiatrique, directeur des recherches dentaires et directeur du département de biologie buccale.

Né à Redfield, Sask, il a reçu son doctorat de l'Université de Toronto en 1947 et obtenait sa maîtrise de l'Université de l'Illinois deux ans plus tard. En 1950 il devenait professeur assistant de dentisterie préventive à l'Université de Toronto et fut promu professeur en 1956.

Le Dr Nikiforuk a également occupé plusieurs autres postes: directeur du service de recherches dentaires à l'Université de Toronto (1954-64); directeur assistant de dentisterie au Toronto Hospital for Sick Children (1952-64); président du Conseil des recherches de l'ADC (1956-58); et directeur, Section des études dentaires, division des bourses de recherche du US National Institutes of Health (1967-68).

Il est porteur d'un certificat de spécialiste en pédodontie du Collège Royal des Chirurgiens-Dentistes de l'Ontario et il est membre du Collège Royal des Chirurgiens-Dentistes du Canada.

Saskatchewan: d'importantes innovations à la faculté dentaire

La nouvelle Faculté de chirurgie dentaire de l'Université de la Saskatchewan créera un service dentaire hospitalier moderne, destiné à resserrer les liens entre les services médicaux de l'université et la formation que reçoivent les étudiants dentaires.

Le projet prévoit également la prolongation du cours à six ans au lieu de cinq, ce qui permettra aux étudiants de sixième année d'acquérir leur expérience pratique en qualité d'internes grâce en partie au service hospitalier.

Le Dr J. H. Sinclair, chef de service, a déclaré que le projet diffère du traitement hospitalier habituel des patients dentaires puisqu'il aura pour but la formation des étudiants.

Le Dr Sinclair, qui est entré à l'Université de la Saskatchewan l'année dernière, après avoir dirigé le service dentaire hospitalier de Dunedin, en Nouvelle-Zélande, déclare que ces services affiliés sont courants dans son pays et en Angleterre mais d'une totale nouveauté sur ce continent.

Un prosthodontiste, le Dr W. A. Cotter, collaborera avec le département. Il organisera une unité prosthodontique à la faculté et enseignera cette matière aux étudiants de seconde année.

Le travail du Dr Cotter est étroitement associé à celui des chirurgiens

plastiques. Par exemple, il a déjà conçu un appareil pour un patient qui avait subi une ablation partielle de la mâchoire et de la joue.

Ce travail ne demeure pas strictement dentaire et comprend la mise au point d'autres appareils pour des cas spéciaux.

Le service dentaire hospitalier et le service prosthodontique illustrent le fait que les soins dentaires s'intègrent au tableau complet de la santé et sont essentiels autant à l'enseignement dentaire qu'au bien-être de l'individu, a déclaré le Dr Sinclair.

Ces deux projets associés forment une partie importante de tout le programme de formation de la nouvelle faculté dentaire, qui produira sa première promotion de diplômés en 1974.

Les organismes dentaires

Le Dr Léon Daigle accède à la présidence de la Société dentaire de Montréal

C'est le 25 avril, lors de l'assemblée annuelle de la Société dentaire de Montréal que le nouveau Conseil d'administration a été choisi.

Le Dr Léon Daigle a été élu président. Il succède au Dr Jacques Matteau. Les autres membres du Conseil d'administration sont: René Bourcier, président désigné; P.-Jean Trudeau, vice-président; André Provost, secrétaire; Denis Laflamme, trésorier; André Leblanc, publiciste; Claude Durand, secrétaire adjoint. Les docteurs Gilles Leduc, Pierre Dupéré, Armando Simard et Benoit Parent seront conseillers.



Le docteur
Léon Daigle

Le Dr Pierre Surprenant élu président de la Société dentaire des Cantons de l'Est

Lors de la dernière assemblée de la Société dentaire des Cantons de l'Est, tenue à Lac-Mégantic, le Dr Pierre Surprenant a été élu président de l'organisme.



Le Dr Gérard Houle est le nouveau président de la Société Dentaire de Québec en remplacement du Dr Guy Maranda.

Il sera assisté dans ses fonctions par les Drs Yvon Leroux, vice-président; Réjean Rheault, secrétaire-trésorier; Gilles Charron, secrétaire correspondant; les Drs Gérard Bolduc, de Lac-Mégantic, Maurice Bizier, d'Asbestos, J. Dion, de Magog, et Jules Désilets, de Thetford Mines, directeurs.

Le Dr Denis Lemay est président sortant de charge.

Congrès régionaux

Remise en question de la transplantation

Selon un chirurgien buccal de Rochester, NY, la plus ancienne des transplantations tissulaires – la transplantation dentaire – possède les résultats les plus incertains.

Le Dr Bejan Iranpour, qui dirige le Département de chirurgie buccale du Centre dentaire Eastman à Rochester, s'adressait aux 183 dentistes présents les 21 et 22 mai au congrès de l'Association des Chirurgiens Dentistes du Québec.

Si 61 p.c. des dents replantées survivent un an, 2,5 p.c. seulement survivent 10 ans. Les résultats sont les mêmes que la dent reçoive un traitement endodontique extra-buccal au moment de la transplantation ou plus tard, dans la bouche.

Hormis l'apparition des antibiotiques, la technique chirurgicale de transplantation des dents n'a pratiquement pas changé depuis le milieu de siècle dernier. C'est donc ailleurs qu'il faut chercher la clef du succès ou de l'échec, a dit le Dr Iranpour.

Les traumatismes, l'infection et l'apport sanguin terminal aux dents constituent les principaux dangers de complication d'une transplantation dentaire. Une autre difficulté provient du phénomène de rejet immunologique dans le cas d'un greffon allographe (provenant d'animaux ou d'individus différents mais de la même espèce).

Le Dr Iranpour a déclaré que le remplacement d'une dent par un pont est d'ordinaire plus pratique qu'une transplantation. Quant aux matériaux de greffe synthétiques, ils sont encore trop peu connus pour que leur emploi soit recommandé. En conséquence, la transplantation pourrait être une des dernières formes de transplantation tissulaire à devenir une méthode généralisée de sauver les dents.

Un chirurgien buccal estime que la chirurgie préprothétique est souvent inutile

Toutes les dents de sagesse incluses et les dents surnuméraires devraient être extraites avant qu'elles n'engendrent des abcès ou des kystes.

Le Dr B. Iranpour, chirurgien buccal de Rochester, NY, a déclaré devant l'Association des Chirugiens Dentistes du Québec, les 21 et 22 mai, que c'est chez les adolescents que les dents de sagesse incluses sont les plus faciles à extraire.

Les opérations préprothétiques seraient en grande partie inutiles chez les patients qui ont des "problèmes" avec leurs dentiers si le dentiste demandait d'abord le conseil d'un prosthodontiste. Les crêtes alvéolaires peuvent être prolongées par des greffons osseux lorsqu'il le faut mais une prothèse d'essai peut réussir même sans cela, a-t-il dit.

Le Dr Iranpour a donné quelques conseils pratiques concernant la chirurgie dentaire en cabinet:

Il doit toujours y avoir assez d'espace dans la région de la tubérosité pour recevoir les prothèses et permettre le libre mouvement du maxillaire inférieur.

Il est préférable de laisser l'os alvéolaire en place après avoir préparé un lambeau et avoir procédé à des extractions multiples. L'os prendra en général une forme prédéterminée et, si des spicules osseux se forment, ils seront ajustés plus tard au besoin.

L'hyperplasie inflammatoire et fibreuse du sillon gingivo-labial et du sillon gingivo-jugal, due aux prothèses dont l'extension est exagérée régresse souvent spontanément si l'on retire les

prothèses de la bouche ou si l'on réduit les rebords.

Il faut obligatoirement procéder à un prélèvement biopsique chez tout patient porteur d'une lésion radioclaire lorsqu'il existe des antécédents de maladie maligne.

Programme du "Fall Clinic" de Montréal

Deux séminaires précéderont le "Fall Clinic" annuel du Montreal Dental Club, qui aura lieu du 26 au 28 octobre à l'Hôtel Reine Elizabeth.

Le Dr E. I. Scrivener, de Lexington, Kentucky, discutera de la dentisterie préventive pour l'omnipraticien, les 24 et 25 octobre. Les Dr C. Durand et J. Bégin, de Montréal, dirigeront, en français, des séminaires sur la périodontie et l'administration du cabinet le 25 octobre.

La liste des conférences cliniques prévues pour le Fall Clinic est la suivante:

R. F. Harvey, de Montréal, "Périodontie";

H. Englander, de Bethesda, Maryland, "La plaque et le contrôle de la carie";

D. R. Kramer, de New Rochelle, NY, "Considérations pratiques du contrôle de la coloration de la porcelaine sur base en métal";

H. C. Lundeen et Carl Wirth, de Lexington, Kentucky, "Notions sur l'articulateur";

Paul Mercier, de Montréal, "Chirurgie prothétique et orthodontique avancée";

A. G. Richards, de Ann Arbor, Mich, "Les changements merveilleux en radiologie dentaire";

Harry Langa, de New York, "L'analyse relative dans le cabinet dentaire";

John Vincelli, de Montréal, "Notions de l'occlusion basées sur le contrôle des forces";

L. A. Weinberg, de New York, "Derniers développements en couronnes et ponts".

Harold Hillenbrand, Directeur général honoraire de l'Association Dentaire Américaine et Président désigné de la Fédération Dentaire Internationale prendra la parole à l'un des deux déjeuners prévus. Lors du deuxième déjeuner, le discours sera confié à George Springate, ancien policier de la ville de Montréal, avocat, footballeur de l'Université McGill et député au Parlement du Québec.

Quant aux activités des dames, elles comprennent la visite du Village Canadien de Earl Moore à Rawdon, Qué, et une démonstration de cuisine par Pol Martin, l'un des chefs montréalais les plus réputés.

Pour tout renseignement et pour les programmes préliminaires, écrire à M^{lle} M. Komarnicka, 4166 rue Ste-Catherine Ouest, Montréal 215, Québec.

L'économie

Les dentistes québécois demandent les soins dentaires pour les assistés sociaux

L'Association des Chirugiens Dentistes du Québec a recommandé au Ministre provincial de la Santé, M. Claude Castonguay, d'inclure dans le nouveau projet d'assurance-maladie la gamme complète des soins bucco-dentaires en faveur des assistés sociaux, sur la base du paiement à l'acte pour les dentistes.

Dans une lettre adressée le 21 mai au nouveau ministre, le Dr Hubert La Belle, président de l'ACDQ, a demandé la tenue d'une réunion pour discuter de l'incorporation des soins dentaires et de la chirurgie buccale dans le nouveau régime d'assurance. Dans le cas où le régime ne doit couvrir que les services de chirurgie buccale, ceux-ci devraient être autorisés aussi bien quand le patient est traité à l'hôpital par un chirurgien buccal que lorsqu'il est soigné dans le cabinet d'un dentiste.

"Puisque ces services sont dispensés par les dentistes et par les chirurgiens buccaux", a dit le Dr La Belle, "il est indispensable que notre association soit présente à la table de négociation pour en établir tous les termes". Le Dr La Belle a fait allusion à l'illogisme de la loi actuelle de l'assistance médicale au Québec, qui couvre bien les frais médicaux mais non pas les soins dentaires, oculaires ou les médicaments.

Il a qualifié une récente disposition d'"aide spéciale", destinée à compléter la Loi d'assistance médicale, de système "sans structure, dépourvu d'arrangements clairement formulés, dont les barèmes d'honoraires ridicules sont établis unilatéralement et souvent laissés à l'arbitraire des bureaucrates".

Il s'est plaint que ce système ait conduit à un "marchandage éhonté" à propos de certains services de santé.

Selon l'organisation actuelle, l'assisté social qui a besoin de traitement doit s'adresser à un dentiste qui établit une liste des soins nécessaires et de ses honoraires. Les traitements et les honoraires doivent ensuite recevoir l'approbation du Ministère provincial du Bien-être social.

Les dentistes québécois demandent des mesures d'encouragement pour les zones rurales

En vue de diminuer la pénurie de dentistes dans les zones rurales, l'Association des Chirugiens-Dentistes du Québec a demandé le 21 mai au gouvernement de suivre le modèle du programme ontarien qui garantit \$22,000 par an aux dentistes qui s'installent dans les régions défavorisées. Il sont payés à l'acte et le gouvernement comble tout déficit éventuel.

D'autre part, les étudiants dentaires de l'Ontario qui acceptent d'exercer

dans une zone démunie peuvent recevoir des bourses de \$3,000 par an au cours de leurs trois dernières années d'études. Ils doivent ensuite exercer dans ces régions un nombre d'années égal à celui où ils ont reçu des bourses.

L'ACDQ a également recommandé de commencer sans délai la formation d'assistantes dentaires dans les CEGEP. Ces assistantes "rempliraient des fonctions équivalentes à celles des infirmières" et libèreraient les dentistes des tâches non-professionnelles.

L'Association estime que 60 p.c. des dentistes du Québec exercent dans la région de Montréal et ne desservent que 40 p.c. de la population de la province. Certaines régions rurales, comme les comtés de Wolfe et de Bel-lechasse, ne comptent pas un seul dentiste.

Première rencontre entre l'Association des Chirurgiens-Dentistes du Québec et M. Claude Castonguay

C'est le 29 mai, à Québec, dans un climat de collaboration et de cordialité, qu'une première rencontre a eu lieu entre l'Association des Chirurgiens-Dentistes du Québec et le gouvernement provincial dans le but de discuter des soins bucco-dentaires dans le contexte de l'assurance-maladie.

C'est en réponse à une invitation de M. Claude Castonguay, Ministre de la Santé, que les membres du Conseil Exécutif et les directeurs des principaux comités de l'Association des Chirurgiens-Dentistes du Québec se sont présentés au siège social du ministère. Le groupe était sous la direction du Dr Hubert La Belle, président.

Le ministre était accompagné de ses deux collègues, le Dr Robert Quenneville et M. Gerald Harvey, respectivement Ministres d'Etat à la Santé, à la Famille et au Bien-être social. Les négociateurs du gouvernement assistaient aussi à la réunion.

Le ministre a mentionné que c'est l'intention du gouvernement d'étudier en profondeur les problèmes relatifs aux soins bucco-dentaires fournis aux assistés sociaux, de façon à ce qu'un régime structuré soit appliqué dans un délai raisonnable. Il a déclaré aussi son intention de maintenir une communication constante avec l'Association des Chirurgiens-Dentistes.

Les échanges de point de vue ont porté sur de nombreux aspects qui préoccupent les dentistes.

Présentation d'un nouveau genre d'auxiliaire à l'ADA

Les fonctions d'une nouvelle auxiliaire dentaire, la technothérapeute, ont été

présentées lors de la Conférence sur l'hygiène dentaire nationale, qui a eu lieu à Chicago du 27 au 28 avril au secrétariat de l'Association Dentaire Américaine.

"La technothérapeute est tout simplement une auxiliaire dentaire qui est formée pour accomplir un certain nombre des services techniques qui étaient auparavant accomplis par le dentiste", a déclaré le Dr D. A. Soricelli, directeur de la Division de l'hygiène dentaire de la ville de Philadelphie.

Il a expliqué que les candidates étaient d'anciennes assistantes dentaires qui avaient subi une période de formation générale d'environ six mois. "Nous avons réalisé le projet exclusivement avec notre propre personnel et nos installations, ce qui est certes loin d'être idéal pour cette fonction".

Le Dr Soricelli a mentionné, entre autres fonctions confiées à la technothérapeute: le nettoyage des dents à la ponce, la prise des clichés radiographiques, la mise en place de la digue de caoutchouc et des fonds de cavité en ciment, le nettoyage de la cavité, la mise en place de la matrice et des coins, l'insertion et le modelage de l'amalgame et le finissage et polissage ultérieurs des restaurations.

La fluoruration

Les dentistes du Québec soulignent l'urgence de la fluoruration

S'appuyant sur la grave pénurie de dentistes au service d'une population qui

par ailleurs s'accroît, l'Association des Chirurgiens-Dentistes du Québec a demandé au nouveau gouvernement provincial d'activer la fluoruration des services d'eau dans toute la province.

Dans un télégramme adressé au Ministre de la Santé, M. Claude Castonguay, l'Association fait remarquer que 10 p.c. seulement de la population bénéficie de soins dentaires alors que 90 p.c. souffrent de caries.

Le télégramme déplore que la fluoruration "ait été l'objet de discussions stériles depuis trop longtemps—et au détriment de tous".

Un porte-parole de l'ACDQ a déclaré qu'un investissement de \$100,000 dans la fluoruration pouvait prévenir 660,000 caries et économiser \$4 millions (au taux de \$6 par restauration).

Actuellement, le Québec dispose de 35 services d'eau fluorée, qui desservent 73 municipalités, soit 700,000 personnes. Les villes fluorées comprennent Trois-Rivières, Laval et Pointe Claire.

Le groupe a suggéré à M. Castonguay de suivre les conclusions de la Commission Castonguay de 1967 sur la Santé et le Bien-être social, qu'il avait lui-même dirigée et qui avait recommandé que les municipalités installent, au cours des trois années suivantes, l'équipement nécessaire pour fluorer l'eau potable, avec l'aide technique et financière du gouvernement du Québec.

Remarquant qu'il s'agit d'une année propice pour commencer la mise en place de la fluoruration—à l'occasion du 25^e anniversaire des débuts de la fluoruration par la ville de Brantford, Ont—l'Association a déclaré que c'est là la "première étape logique dans l'établissement d'un régime d'assurance dentaire".

TÉLÉGRAMME AU SUJET DE LA FLUORURATION ADRESSÉ AU MINISTRE DE LA SANTÉ PAR L'ASSOCIATION DES CHIRURGIENS-DENTISTES DE LA PROVINCE DE QUÉBEC

Monsieur le Ministre: A l'occasion du congrès de l'Association des Chirurgiens-Dentistes du Québec et pour souligner le 25^{ème} anniversaire de la fluoruration des eaux de consommation de la ville de Brantford (Ont) nous demandons à l'honorable Ministre de la Santé, Monsieur Claude Castonguay de promouvoir et d'appliquer vis-à-vis toutes les municipalités du Québec une recommandation du rapport de la Commission d'Enquête sur la Santé et le Bien-être Social 1967 et qui se lit comme suit: "Que les municipalités soient tenues d'installer au cours des trois prochaines années des appareils de fluoruration des eaux de consommation avec l'aide du Gouvernement du Québec sous forme de conseil technique et de subvention égale à la moitié du coût des appareils. Que cette obligation s'applique tant aux corporations municipales qu'aux personnes exploitant un aqueduc en vertu d'une franchise". Nous espérons, Monsieur le Ministre, que vous prendrez position ouvertement sur ce sujet puisque cette mesure préventive a été trop longtemps l'objet de discussions stériles au détriment surtout des moins favorisés. D'ailleurs notre association est d'avis que c'est la première phase logique dans l'établissement d'un régime couvrant les soins dentaires.

*Hubert La Belle
Président, ADPQ*

Des parents en faveur de la fluoruration au Québec

Un groupe important de parents faisait parvenir récemment au maire de Montréal, M. Jean Drapeau, une résolution du "Quebec Federation of Home and School Association" le pendant de langue anglaise de la Fédération des Associations de Parents-Maîtres du Québec.

La fédération, qui représente quelque 7,350 familles dont approximativement la moitié habite le Montréal métropolitain a réitéré son appui à la fluoruration qu'elle donne déjà depuis 1955 et a accepté une résolution qui demande avec urgence l'addition du fluor aux systèmes d'eaux dans tous les centres du Québec et encourage les associations locales à faire la même demande auprès de leurs autorités civiles.

La fédération espère que la présente administration civique de Montréal prendra ses responsabilités et approuvera l'addition du fluor au système d'eaux de consommation pour le bienfait de la santé générale des enfants.

Granby étudie la fluoruration

La fluoruration de l'eau de consommation fera l'objet d'une étude cette année au conseil municipal de Granby.

Les dentistes de Granby seront consultés sur le sujet et on demandera à l'Unité sanitaire du comté de Shefford d'établir des statistiques sur les taux de carie chez les jeunes enfants.

Le Collège des Chirurgiens-Dentistes de la province de Québec, dans une lettre envoyée au conseil municipal, a rappelé les bienfaits de cette mesure et a suggéré qu'elle soit appliquée afin de diminuer considérablement la carie dentaire chez les enfants.

Un médecin de Vancouver gagne \$1,000 dans un procès en diffamation

La Cour Supérieure de la Colombie-Britannique a ordonné que Gerald Bonham, responsable de l'hygiène publique à Vancouver, reçoive \$1,000 en dommages-intérêts dans un procès en diffamation contre l'Association de l'eau pure de la région.

Le Dr Bonham avait intenté un procès à l'association à la suite d'une série d'annonces dans les journaux pendant la campagne qui avait précédé la consultation populaire sur la fluoruration en 1968.

Dans ces annonces, l'association prétendait que le responsable de l'hygiène publique à Vancouver avait "avoué" dans une émission radiophonique que la fluoruration pouvait causer des malfunctions rénales chez certains individus.

Devant la cour, le Dr Bonham a dénié que ses commentaires sur la fluoruration durant le programme radiophonique indiquaient qu'il croyait que la fluoruration pouvait faire du tort. Le magistrat McIntyre de la Cour Supérieure a jugé, après avoir écouté une bande magnétique qui avait enregistré la discussion, que le Dr Bonham n'avait pas fait la déclaration présumée.

Le magistrat a déclaré en terminant que les mots choisis dans les annonces pouvaient avoir une acceptation diffamatoire. Il a dit qu'ils faisaient com-

prendre au lecteur moyen que le Dr Bonham plaiderait en faveur d'une mesure de santé publique qui, de sa propre connaissance, causerait des malfunctions rénales chez certains individus.

"Dire d'un médecin, surtout d'un homme chargé de la surveillance de la santé publique, qu'il a recommandé d'adopter une ligne de conduite qui pouvait mettre en danger une partie du public, le discréditerait à mon avis chez tout homme raisonnable", a déclaré le juge.

La recherche

CONFERENCE SUR LA RECHERCHE A L'UNIVERSITE DE LA COLOMBIE-BRITANNIQUE

C'est à l'Université de la Colombie-Britannique, à Vancouver, que des savants de tout le Canada se sont rencontrés à l'occasion de la 6^e Conférence canadienne sur la recherche dentaire du 24 au 26 juin derniers. Les participants ont présenté de nombreuses communications sur les plus récents progrès réalisés par la recherche dentaire.

Voici les résumés de quelques mémoires.

Un agent chimique qui prévient la bactériémie

Deux chercheurs de l'Université McGill signalent qu'un nouvel antibiotique, la clindamycine (Dalacine C), est plus efficace que d'autres médicaments dans la prévention des bactériémies transitoires qui font suite à certains traitements dentaires traumatiques.

Joan deVries et L. E. Francis ont déclaré que cette découverte est particulièrement importante pour le patient atteint d'une maladie cardiaque valvulaire et qui, par suite, pourrait développer une endocardite bactérienne subaiguë. Normalement, la pénicilline est l'agent prophylactique recommandé pour ces patients et l'érythromycine pour ceux qui ont une sensibilisation à la pénicilline.

Aide radiographique

F. W. Musaph et E. P. Wickland de l'Université de la Colombie-Britannique, à Vancouver, ont décrit un nouveau soutien du menton pour les appareils de radiographie panoramique. Le dispositif a été développé dans le but de maintenir tous les segments de la mâchoire, en particulier la région antérieure, à l'intérieur de la couche de

l'image de l'appareil.

Le Dr Musaph a expliqué que le soutien consiste en un plan d'une largeur de 4.6 mm gravé sur plastique, qui décrit un arc de 102.5° avec un rayon de 30 mm.

Une fourchette sert à apprécier l'extension verticale du plan. Avec ses quatre rainures placées au-dessus et au-dessous, la fourchette aide à situer le patient; trois de ces rainures correspondent aux lignes extérieure, centrale et intérieure du plan focal, la quatrième est située plus antérieurement. La décision de faire voir des contours nettement dessinés de la couronne ou de la racine en prognathies extrêmes détermine la position des dents du patient dans la fourchette.

Une deuxième fourchette est équipée d'un marqueur métallique qui indique le centre de la couche de l'image. Cette fourchette est utilisée pour prendre des radiographies des dents en occlusion centrique et aussi pour répéter les radiographies.

La fétidité de l'haleine

Les réactions de putréfaction dans la cavité buccale constituent peut-être la source des composants sulfureux malodorants de l'haleine.

Utilisant la chromatographie au gaz, J. Tonzetich de l'Université de la Colombie-Britannique, a trouvé dans l'haleine des concentrations organoleptiques de trois composés qui contiennent du soufre. Deux de ces composés, qui représentent environ 90 p.c. du contenu total de soufre sont l'hydrogène sulfuré et le mercaptan de méthyle. Le troisième, un composé secondaire, a été identifié expérimentalement comme étant le sulfure diméthylé.

Tous les trois composés répandent une odeur putride désagréable. Ils correspondent aux produits sulfureux gazeux de dégradation de la plaque et ont été découverts dans la salive putréfiée pendant une période allant de 60 à 90 minutes.

Croissance des dents et des os

Un chercheur de l'Université Western Ontario a démontré que le bord inférieur de la mandibule ne représente pas un plan d'orientation stable pour mesurer l'éruption des dents mandibulaires.

W. H. Feasby a utilisé des tracés mandibulaires enregistrés au moyen de céphalographies pendant des intervalles allant de quatre à cinq ans. Il a surimposé les tracés sur une tangente au bord inférieur de la cavité folliculaire de la dernière molaire (jusqu'au début de la formation de la racine) et à la surface corticale interne de la symphyse.

Le bord inférieur de la cavité folliculaire des molaires coïncidait dans chaque superposition avec l'enregistrement de la symphyse, mais il y avait cependant une transposition ascendante du bord inférieur de la mandibule derrière la première prémolaire.

Le Dr Feasby a calculé que le mouvement ascendant annuel moyen du plan mandibulaire de la canine jusqu'à la première molaire varie jusqu'à 0.6 mm.

Un autre chercheur, le Dr B. K. Arora, de Saskatoon, a découvert que l'énervation des muscles masticateurs n'influence que peu la croissance et le développement des mâchoires.

Le chercheur a rapporté l'opération de pourceaux âgés de 14 jours dans laquelle 1 cm de la branche mandibulaire du nerf trijumeau a été excisé unilatéralement. Le tissu nerveux a été coupé là où il émerge de la cavité crânienne. Les animaux ont été sacrifiés à des intervalles de neuf, 12, et 18 semaines. Il y avait très peu de dissimilitudes morphologiques entre les côtés opérés et non-opérés et entre les animaux opérés et les animaux du groupe témoin, a-t-il déclaré.

Les parathyroïdes et la lamina dura

Un chirurgien buccal de l'Université Dalhousie à Halifax a fait savoir que la résorption de la lamina dura indique "fortement" l'existence d'un hyperparathyroïdisme primaire ou secondaire, mais que la présence de la lamina dura ne doit pas écarter la possibilité de l'hyperfonctionnement des glandes parathyroïdes.

F. W. Lovely a remarqué que les constatations positives sont très significatives tandis que les constatations négatives sont peu concluantes.

Soulignant l'importance d'autres résultats obtenus durant le diagnostic, le Dr Lovely a dit que les variations dans

la composition chimique du sérum et la formation d'un calcul rénal indiquent fortement l'existence d'une maladie des glandes parathyroïdes.

D'autres progrès dans la recherche ont été rapportés:

—L'évidence expérimentale indique que l'hyperplasie gingivale due à la di-phénylhydantoïne implique le tissu conjonctif et les parties composantes inflammatoires plutôt que l'épithélium.

—Un nouveau procédé pour comparer les effets intraveineux et intrapulpaire de divers médicaments.

—Une comparaison de la circulation du sang à travers la pulpe (0.7 ml/Gm/min) et le périodonte (0.4 ml/Gm/min).

—Des observations électromicroscopiques de l'ultrastructure cellulaire dans le granulome formé par des cellules géantes périphériques.

Le cancer buccal lié à l'alcool

Un éducateur dentaire de Californie a fait savoir que le cancer buccal est lié à l'alcoolisme et à la forte consommation d'alcool.

Le Dr A. M. Abrams, qui dirige le département de pathologie à la Faculté de chirurgie dentaire de l'Université de la Californie du Sud, déclare que l'alcoolique a des chances beaucoup plus fortes d'être atteint par la maladie et que le pourcentage de cas de cancer buccal chez les gros buveurs est beaucoup plus élevé que chez ceux qui ne boivent qu'avec modération ou chez les non buveurs.

Bien qu'il n'y ait pas de statistiques exactes, le Dr Abrams déclare qu'il fonde son affirmation sur la conviction croissante d'autres pathologistes buccaux et sur ses propres observations.

"Nous ne savons pas pourquoi la forte consommation d'alcool est liée au cancer buccal. Il peut se faire que des quantités excessives d'alcool causent une irritation locale des tissus de la bouche, ou que la sous-alimentation et un métabolisme défectueux — qui sont souvent associés à l'alcoolisme — rendent les tissus plus susceptibles au cancer", a ajouté le Dr Abrams.

Il a dit que le buveur moyen — celui qui prend régulièrement un cocktail ou deux avant le dîner — ne devrait apparemment pas craindre d'augmenter ses chances de contracter le cancer". Mais il est difficile de dire combien de verres par jour mettent une personne en danger", a-t-il déclaré.

Le Dr Abrams a fait remarquer que la maladie peut se présenter chez des personnes qui ne fument pas et ne boivent pas. "Une étude à San Francisco a établi que les cas de cancer buccal avaient doublé chez les femmes au cours des 15 dernières années, et que cette augmentation est liée à l'accroissement de l'usage de la cigarette chez les femmes."



C'est le Dr G. D. Armstrong de Montréal (à droite) qui remet un parchemin souvenir au Dr Paul Simard, Québec, fondateur et rédacteur en chef émérite du *Journal Dentaire du Québec*. Le Dr Simard vient d'être nommé premier membre honoraire de l'Association des Chirugiens-Dentistes de la Province de Québec.

L'hygiène publique

Elections à la Section dentaire de l'ACSP

Le Dr James McGaughey, de Toronto, a été choisi président de la Section d'hygiène dentaire de l'Association canadienne de la santé publique lors de la réunion annuelle de l'ACSP qui a eu lieu le 21 mai dernier à Winnipeg. Il succède au Dr C. H. McCormick, de Winnipeg. Le Dr McGaughey est directeur des services dentaires du Département de la santé publique de la ville de Toronto.

Le Dr R. E. Feasby, dentiste consultant en hygiène dentaire publique auprès du Ministère de la Santé de l'Ontario, a été nommé vice-président. R. E. McDermott, de Toronto, servira en tant que secrétaire.

Distinctions honorifiques

Le Dr Paul Simard, de Lévis, Québec, a été nommé, le 22 mai, premier membre honoraire de l'Association des Chirugiens-Dentistes du Québec, alors qu'il quittait le poste de rédacteur du *Journal Dentaire du Québec*. Le Dr Marcel Hébert, de Montréal, assumera dorénavant la direction du journal provincial.

Our man in Uganda

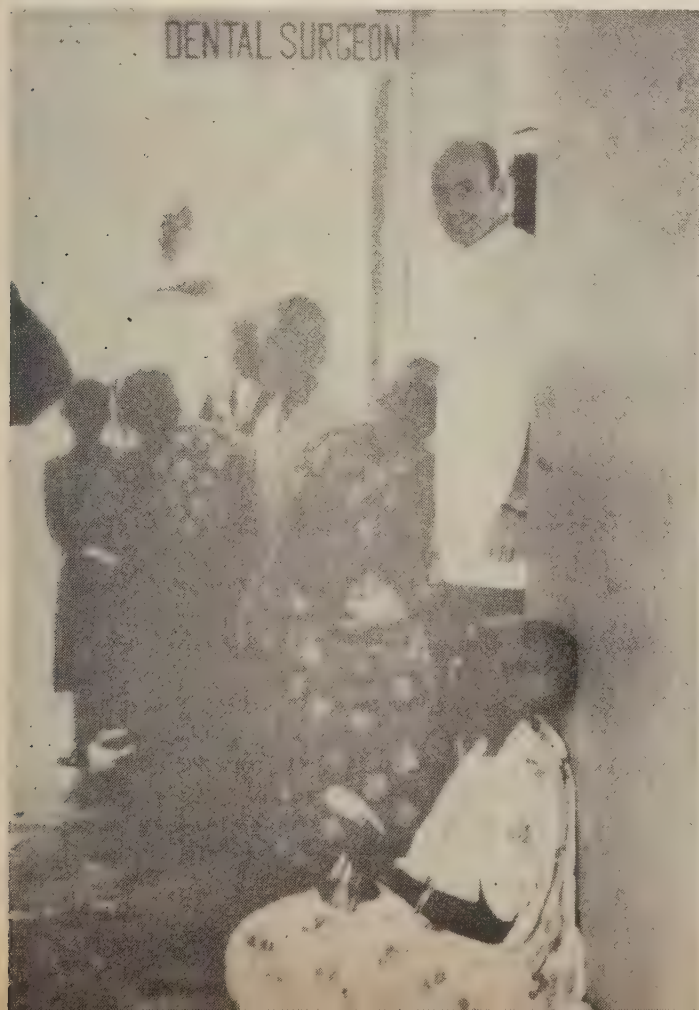
L. G. Lawrence, DDS
Fort Portal, Uganda

Doctor Lawrence, a 1968 graduate of the University of Toronto, went to East Africa shortly after graduation to work for the Government of Uganda. He sends the Journal this personal report on dentistry at Fort Portal, an up-country station in the Toro region of Uganda.

I came with my wife, a registered nurse, to work as a government dental surgeon in Uganda. We serve under the auspices of CUSO—Canadian University Service Overseas—on a two year contract.

After a brief orientation at the spacious and modern Mulago hospital in Kampala, we went directly to Fort Portal, a small town in the Western Region in the foothills of the "Mountains of the Moon." I was given a room in the outpatient department of the 160 bed local hospital and proceeded to uncrate and set up my equipment. After three weeks everything was ready.

Doctor Lawrence with a group of patients waiting outside his clinic in Fort Portal.



The BaToro

The people in this area are called the BaToro—the people of Toro. They are friendly, warm and appreciative. The vast majority are simple farmers usually occupying less than an acre of land and living in a small mud and wattle house, with goats and children frolicking outside and surrounded by banana or "matoke" trees that furnish the staple food. They also grow some beans, groundnuts and corn. The land is fertile; life is pleasant and unhurried. As for education, the parents have little or none although their children will probably have more. This is mainly because the parents must pay school fees for primary and secondary education, and most of them simply do not have the money.

It is necessary to know these things to understand the kind of patients I treat and the scope of treatment performed. An additional point of information is that I am paid a salary by the government and all my services are free. Thus I have a free hand to give whatever treatment is needed and am not limited by cost.

My equipment was bought through a British loan. It is new and includes an air turbine, an x-ray unit, a conventional dental unit with chair and a complete range of dental materials. I construct my complete dentures from start to finish—thank goodness for those long hours in the laboratory at the Toronto Faculty of Dentistry!

Two misconceptions

I came to East Africa with a number of misconceptions which were quickly and very abruptly dispelled. One of these, gained from conversation with African students in Toronto, was that Africans have little or nothing wrong with their teeth. I soon found, however, that there is a crying need for dentists and dental health education. Yet there is only one dentist for approximately half-a-million people in Uganda—the mind boggles!

Another misconception was that dental problems were mostly periodontal. But my records of the past year show that three of every six patients examined were suffering pain usually due to gross caries, two had pain of periodontal origin and one would have some other problem—often trauma or pericoronitis.

I use the word "pain" deliberately. All these patients are referred to me by the medical assistant. Most people in Uganda have never heard of a dentist, let alone been treated by one. And so, inevitably, the presenting symptom is pain, usually severe pain.

Upon closer examination I find that most patients do, in fact, have periodontal disease, in many cases at an advanced stage. But caries is the commonest problem and the incidence is rising rapidly.

Extensive lesions with associated abscesses and premature loss of the primary teeth are rampant in children. This bodes ill for adult dentitions that are being subjected to a rising tide of sweets.

I have also observed what looks like dental fluorosis in children from a particular group of villages. I intend to investigate this further.

I have noted and photographed several cases of classical acute necrotizing ulcerative gingivitis in children one to four years old.



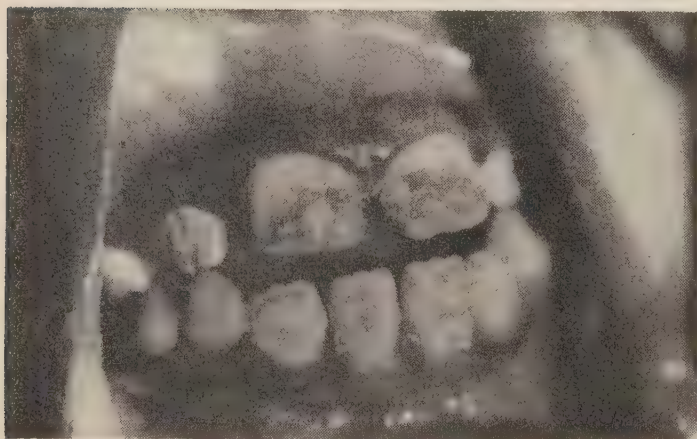
Doctor Lawrence at work with his assistant, George Katuramu.



One-and-a-half year old child with acute necrotizing ulcerative gingivitis. A gray exudate issued from the ulcerated interdental papillae. The patient had fetid breasts.



A common maternal scene in the dental chair.



Dental hypoplasia thought to be due to fluorosis.

The cause of oral disease here seems to be directly related to diet and cleaning habits or the lack thereof. The staple food is made from plantain or bananas. These are cooked and made into a sticky mass resembling mashed potatoes and supplemented with sauces made from nuts or beans. Every meal consists of this starchy purée which has negligible nutritional value. There is rarely any meat. The dangerous combination of sticky food and inadequate nutrition is compounded by a lack of proper oral hygiene. Most often the right index finger is the only toothbrush and this usually packs the amorphous mass tighter into the interproximal spaces. The result is retained food, boggy oedematous gingiva, gross accretions of calculus, especially on the lower central incisors, caries and astonishing gingival recession around the incisors and first molars.

Using a foot-long toothbrush brought from Canada and a quadrant of giant size teeth which I carved from a block of dental stone, I routinely teach my younger and more intelligent patients a method of brushing adapted from Doctor C. H. M. Williams' technique. I



The author's oral hygiene teaching aids — a giant toothbrush and teeth carved from a block of dental stone.

also ask them to show this method of brushing to other people at home. The results have been very gratifying and the patients are quite willing to buy a brush for two shillings (30 cents).

Fractures and cysts

In addition to the usual dental problems, trauma is very prevalent, the cause being either a bicycle accident or the result of imbibing too much home brew. I am responsible for treating all fractures, cysts and tumours in and about the mouth.

So far I have treated some 30 fractured jaws, five requiring open reduction with bur holes and direct skeletal wiring.

There have been several large cysts. One patient had a cyst 1½ inches in diameter arising from an impacted cuspid whose apex was in the infra-orbital margin. I extracted the cuspid and marsupialized the cyst which subsequently filled in slowly.

I have also treated four ameloblastomas. One was so large that it required total resection of the mandible which I did with our consultant surgeon. Another patient had a neurilemmoma originating at the site of the mental foramen.

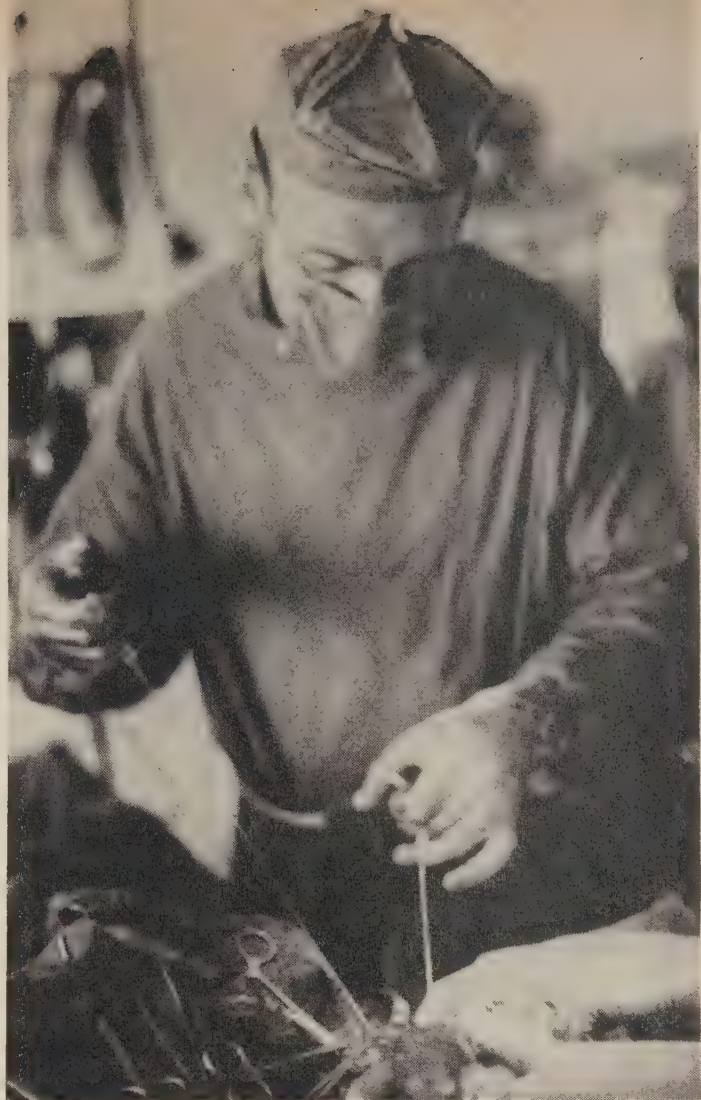
Since I rely solely on my undergraduate training and have as my only reference H. B. Clark's *Practical Oral Surgery*, I find these cases a tough challenge but very rewarding.

My patients include all the Europeans and Asians in the area who provide me with opportunities for operative procedures, root canal therapy and dentures. As a consequence, my practice is extremely varied and busy.

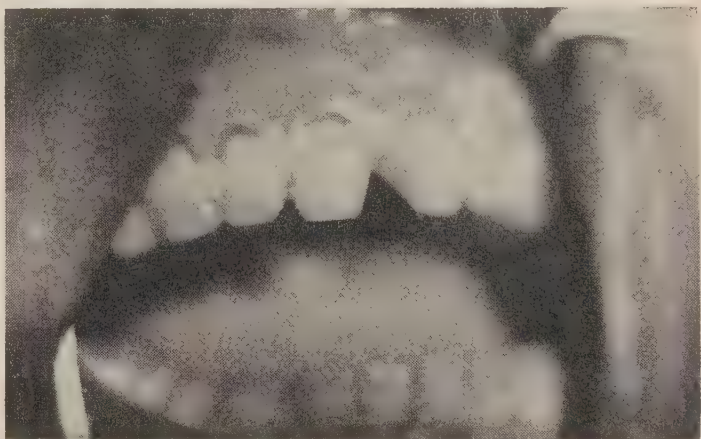
Future plans

I have trained my assistant, George Katuramu, in the techniques of simple oral surgery and local anaesthesia. He can now handle routine extractions and he takes over while I am operating in the theatre or on safari. Recently, I returned to find that he had surgically removed a horizontally impacted third molar after using the flap technique and sectioning the tooth with an air-driven bur—methods he had seen me use!

My wife and I will be back in Canada by the time this report is published. Replacing me will be an



Doctor Lawrence is shown using a "Gigli" saw during removal of an ameloblastoma of the mandible.



An example of a local tribal custom: filing of the central incisors.

American nun who worked at a Roman Catholic mission for the past two years and has now accepted a government appointment as dentist. In the meantime, the Uganda government is also setting up a dental aide school to train more people like George Katuramu. Such a training centre will certainly be most welcome.

In vitro enamel solubility reduction through sequential application of acidulated phosphofluoride and stannous fluoride

I. L. Shannon, DMD, MSD
Houston, Texas

Findings of this laboratory study suggest that two minute sequential topical applications of acidulated phosphofluoride and stannous fluoride decrease the surface solubility of dental enamel and afford more durable protection than obtains when either agent is used alone.

Les résultats de cette étude en laboratoire laissent penser que des applications topiques, en succession, d'une durée de deux minutes de phosphofluorure acidulé et de fluorure stanneux réduisent la solubilité de l'émail dentaire et fournissent une protection plus durable que chacun des deux agents chimiques employé seul.

Dentists customarily use only one type of chemical agent for topical applications. Those who rely upon the effect of the fluoride ion alone usually apply either sodium fluoride or acidulated phosphofluoride (APF). Others depend primarily on cation-enamel reactions and usually choose stannous fluoride.

APF and stannous fluoride reduce enamel solubility when used singly. Combined treatment in which APF is followed by stannous fluoride gives even better results.¹ This is not so, however, when the treatment order is reversed.

The decreased enamel surface solubility provided by APF-SnF₂ treatment results from at least two distinct reaction mechanisms and may therefore be more durable. The present study explores this possibility.

Materials and methods

A total of 120 extracted human teeth were employed in testing three topical application procedures. The teeth were freed of extraneous tissue, cleaned by light prophylaxis, and refrigerated in ion-exchange water (pH 7.0) until used. At the time of use the teeth were allowed to air-dry, and all surfaces other than intact enamel were covered with molten sticky wax. In preparation for testing all teeth were immersed for 30 minutes in 0.025 molar lactic acid. This acid was discarded and the slightly etched enamel surface was ready for testing.

The ability of each treatment method to reduce enamel solubility was ascertained by measuring the

amount of phosphorus withdrawn from each crown before and after the test application had been applied. The teeth were submerged for 15 minutes in 4.0 ml of 0.025 molar lactic acid, pressure-rinsed with tap and distilled water, and allowed to air-dry. The acid sample was retained for phosphorus measurement. The topical treatment to be tested was then applied for two minutes. The teeth were once more washed, allowed to dry, and exposed to a second 15 minute immersion in lactic acid. The difference in the quantity of phosphorus removed from the enamel before and after treatment was used to calculate the enamel solubility reduction (ESR). Outlines of tooth preparation, acid exposure method, phosphorus extraction, and ESR calculation have been described in detail.¹⁻⁴

The first group of 40 teeth received a two minute treatment with freshly prepared APF solution containing 1.23 per cent fluoride.^{5, 6} Ten teeth were used to measure ESR of this compound in the routine fashion. The remaining 30 teeth were placed in rapidly flowing tap water and, at intervals of 24 hours, 10 teeth were removed and processed through the second lactic acid exposure. ESR was thus measured after no exposure to running water as well as after 24, 48 and 72 hours of exposure. The flowing tap water was intended to simulate somewhat the washing effect of saliva.

The second group of 40 teeth was processed in an identical fashion except that the treatment preparation was a freshly prepared 0.5 per cent aqueous solution of stannous fluoride. The third group of 40 teeth received a two minute application with APF and a subsequent treatment with stannous fluoride.

ESR was calculated in per cent by subtracting the amount of phosphorus withdrawn by the second (post-treatment) acid exposure from that of the first (pre-treatment) exposure, dividing this figure by the latter, and multiplying the result by 100.

Results

Table 1 shows means for enamel solubility reduction by treatments with the three test procedures. Also shown is the effect of exposure to flowing tap water for 24, 48 and 72 hours on this enamel solubility reduction.

A routine two minute topical application of 0.5 per cent stannous fluoride provided significantly ($P < 0.01$) more protection than did APF solution. Treatment

Treatment solutions	Hours in flowing tap water after treatment							
	0		24		48		72	
	Mean ESR %	Standard deviation	Mean ESR %	Standard deviation	Mean ESR %	Standard deviation	Mean ESR %	Standard deviation
APF	69.2	3.82	33.5	4.29	34.2	5.40	38.4	4.46
0.5% SnF ₂	79.6	5.18	34.5	4.15	35.8	5.18	35.2	3.94
APF followed by 0.5% SnF ₂	94.0	1.11	83.1	3.76	82.7	2.78	83.0	3.80

with APF followed by stannous fluoride was significantly ($P<0.01$) more effective than either compound used alone.

Treatment with APF reduced enamel solubility by 69.2 per cent. Washing for 24 hours reversed this effect significantly ($P<0.01$), but no additional significant loss of protection was noted after the 48 and 72 hour washing periods.

Protection provided by stannous fluoride also decreased significantly ($P<0.01$) during the first 24 hours of washing but, as with APF, further washing did not decrease the protection significantly.

Treatment with APF followed by stannous fluoride reduced solubility by 94.0 per cent. Washing for 24 hours also reversed this effect significantly ($P<0.01$), but only to 83.1 per cent. Once again, additional washing did not diminish the protection significantly.

Discussion

The very high (94.0 per cent) reduction in enamel solubility provided by APF-SnF₂ and the significant superiority of the combined agents confirm earlier observations.¹

Not only is the reduction in solubility much greater for the combined treatment, but the protection that is provided is of a more resistant type. With APF treatment, washing for 24 hours reduced the initial protection by 52 per cent. With stannous fluoride alone, the same amount of washing decreased its effectiveness by 57 per cent. On the other hand, washing for 24 hours after APF-SnF₂ treatment reduced the high initial protection by only 12 per cent.

Prolonged washing did not reduce the protection significantly beyond the 24 hour effect in any of the test procedures. After washing for 72 hours, the combined APF-SnF₂ treated enamel was more resistant to acid solution than was the unwashed enamel treated with either component alone.

The exact mechanism by which the fluoride ion protects dental enamel has not been identified. The effectiveness of fluoride in the water supply is thought to be associated with crystal changes by which hydroxyapatite is converted to fluorapatite.⁷ Topical applications of fluoride, however, produce calcium fluoride on the enamel surface.^{8, 9} The formation of this salt is preceded by the dissolution of apatite and the subsequent calcium fluoride precipitate does not provide durable protection for the enamel.

Acidification of sodium fluoride solution increases the fluoride uptake by enamel. To offset the dangers inherent in such acidification, phosphate has been

added as a protective factor.⁵ The addition of phosphate may also depress the formation of calcium fluoride and favour the deposition of fluoride as fluorapatite. It has been shown that the reaction of APF with enamel leads primarily to the formation of calcium fluoride.¹⁰ After 62 hours, however, there is increased crystallinity as well as some evidence of fluorapatite.

The reaction of stannous fluoride with enamel has received considerable attention.¹¹⁻¹⁸ This substance forms a highly adherent surface coating on enamel¹¹ composed primarily of tin phosphate.¹²⁻¹⁴ It has also been found that the layer consists of both calcium fluoride and a tin hydroxyorthophosphate.

Hydroxylapatite can react with anions and cations so that thin layers are formed on the surface.¹⁸ These layers may be composed of calcium fluoride in the presence of fluoride ions, stannous phosphate in the presence of stannous ions, and calcium monohydrogen phosphate in the presence of hydrogen ions.

The high degree of protection provided by the combined APF-SnF₂ may be explained by a copious formation of calcium fluoride through primary treatment with APF, and the deposition of a highly insoluble outer layer of stannous phosphate over the calcium fluoride layer through treatment with stannous fluoride. The presence of these two reaction product layers results in a protective barrier that is far more resistant to acid dissolution and physical displacement than is the product of either agent alone.

Further investigation is necessary to ascertain the clinical potential of these findings. Moreover, sequential application of the two agents would impose an additional time requirement, albeit small, on the clinician. Since virtually all topical applications are preceded by prophylaxis with an abrasive paste, the simple expedient may be the incorporation of APF in such a paste. The combination of chemical agents could then be administered to the patient in the proper sequence without a change in the customary clinical approach. Clinical and laboratory studies are in progress to test this premise.

Summary

Acidulated phosphofluoride (APF) and 0.5 per cent stannous fluoride were tested singly and in combination for the ability to decrease the acid solubility of human enamel. The resistance of this protection to displacement by fast-flowing tap water was also measured.

A two minute topical application of APF reduced enamel solubility by 69.2 per cent, stannous fluoride provided 79.6 per cent protection, and APF followed by stannous fluoride raised the level of protection to 94.0 per cent.

Washing for 24 hours caused a 52 per cent drop in the protection afforded by APF alone. A comparable loss figure with stannous fluoride was 57 per cent. But the protection provided by APF-SnF₂ treatment declined by only 12 per cent after such washing. Additional washing had no further significant effect in all three treatments.

In vitro sequential treatment with APF and stannous fluoride significantly increases the resistance of enamel to acid dissolution. This protection withstands exposure to flowing tap water for periods up to 72 hours and is more durable than the protective effect of either agent used singly.

Doctor Shannon, who is professor of biochemistry at the University of Texas Dental Branch, is also director of the Oral Physiology Research Laboratory at the Veterans Administration Hospital, 2002 Holcombe Blvd, Houston 77031.

This research was supported in part by a grant from the Warner-Lambert Research Institute, Morris Plains, New Jersey.

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Two American toothpastes judged effective — The Food and Drug Administration says only two of 11 toothpastes and powders promoted for decay prevention are fully effective. The agency has withdrawn marketing approval for eight of the preparations.

The FDA, citing a study by the National Academy of Science, termed eight preparations ineffective and one possibly effective in cavity protection.

The agency announced on Monday it has withdrawn marketing approval for the eight dentifrices that lack proof for such claims as: "stays active against tooth decay all day;" helps harden and strengthen the structure of tooth enamel on contact and helps prevent decay;" and "destroys bad breath originating in the mouth."

The two brands termed effective in preventing cavities were Procter and Gamble's Crest and new Colgate Dental Creme-Gardol plus MFP.

The FDA endorsed the findings of the academy that these eight brands are ineffective for their advertised purpose of preventing tooth decay: Brisk Activated Tooth Paste, Colgate Chlorophyll Tooth Paste with Gardol, Colgate Dental Cream with Gardol, Antizyme Tooth Paste, Kolynos Fluoride Toothpaste, Super Amm-I-Dent, Amm-I-Dent Toothpaste and Amm-I-Dent Tooth-powder.

The tooth paste findings — except for the Colgate Gardol-MFP brands — are a portion of the Government's investigation of drugs marketed between 1938 and 1962 before proof of effectiveness was required for approval. — Associated Press Dispatch, July 22, 1970.

Money for dental education

The urgency of training increasing numbers of dentists is apparent to almost everyone. While the 350 who received dental degrees this spring represent an increase of about 63 per cent over the figure 10 years ago, estimates by the CDA Bureau of Economic Research show that a substantial increase in current enrolments—as much as 135 per cent—is needed to permit admission of all qualified students who apply to Canadian dental schools under present conditions. Even greater increases will be needed in the future.

Expanded enrolment, of course, can come about in two ways—increasing enrolment in existing schools and the development of new schools.

It takes about five years to launch a new dental school, and even longer for a medical school. Planning for Mount Sinai Medical School in New York City, which graduated its first class of physicians last May, began almost 10 years ago. At that time, the cost of its development was estimated at \$107 million, but inflation has elevated the total to about \$150 million. This points up how expensive and time-consuming is the creation of a new professional school.

Increasing enrolment is also expensive. The expansion of existing dental schools is under way, but that process, too, is being hindered by shortages of money and trained staff.

Everyone agrees that they want to assure adequate high quality dental care for all Canadians. That assurance can become reality only if all of us—in government, in the profession, and in industry—are willing to supply the substantial funds required to increase the number of new dentists, dental hygienists, dental assistants and dental laboratory technicians much more rapidly than presently available resources make possible.

It is also a matter of record that government has seldom been the first to recognize social or health needs. From general education to dental research, every investment in people has first been made by volunteers. Governments have reluctantly started to foot part of the bill only when the need has become so nakedly apparent that they could no longer politically afford to ignore it.

Since 1962, the Canadian Fund for Dental Education has invested more than \$165,000 in dental education. More than \$100,000 of this has been in the form of dental teacher training fellowships. CFDE has also contributed \$34,000 to Canada's dental schools and \$20,000 to other education-related projects. It is

And now . . . an omen from Quebec

The Castonguay Commission's proposals for restructuring Quebec's health professions, as summarized elsewhere in this issue, should dispel any lingering notions that Ontario's current ferment over regulation of the health disciplines is an isolated phenomenon. True, Ontario seems to have had a head start as reflected in the successive pronouncements from the McRuer Royal Commission on Civil Rights and the Ontario Committee on the Healing Arts. Both bodies found fault with the practice of financing voluntary professional associations out of moneys collected as licence fees; both advocated a dissolution of the links between licensing boards and professional associations.

Now along comes the Castonguay Commission with a similar diagnosis in Quebec. Its remedy: the same prescription as in Ontario, but in stronger doses. The fact that Commissioner Claude Castonguay is now his province's health minister lends added weight to the proposals. Judged by his past record, it is most unlikely that the report will be allowed to gather dust.

It is no mere theory that these moves are inspired by a fundamental shift in public attitudes toward the healing arts. Gone forever are the days when people accepted the unquestioned word of their "doctor" or when legislatures were content to delegate their regulatory powers to a body of health professionals. This is the Age of Aquarius—the era of participatory democracy—when the consumer will have his say in the delivery of health care. Viewed in this light, there is no comfort in the old chestnut that health is subject to provincial jurisdiction and that developments in one province have no meaning for the others.

What is necessary now is to convince legislators that we share the public's desire to provide Canadians with the best in health care at the lowest possible cost. Citizens, governments and health professionals can achieve this lofty goal if they move forward in concert, each respectful of the positive contributions the others can make.

self-evident that much more financial support is required.

Much has been said about the need for more dental manpower. Now is the time to match words with actions by donating generously to the cause of dental education in the coming CFDE Month.

A l'aube d'une ère nouvelle

Cet automne, l'Assemblée nationale à Québec entreprendra l'étude d'un projet de loi qui sera basé sur le rapport de la Commission Castonguay concernant les corps professionnels. Cette nouvelle loi changera radicalement l'organisation des professions au Québec.

Beaucoup avaient déjà prédit les réformes qu'épouse le rapport. Depuis plusieurs années, il devenait de plus en plus apparent que les collèges, puisqu'ils sont l'extension du gouvernement dans la régie d'une discipline, ne pouvaient en même temps conserver le rôle de défenseur économique des professionnels. Le rapport est très clair à ce sujet: les collèges sont les représentants de la collectivité des citoyens du Québec et non des seuls professionnels. D'autre part, l'Association des Chirurgiens-Dentistes du Québec a été créée spécifiquement pour défendre les intérêts économiques des dentistes du Québec. Maintenant que la question a été tranchée et que la division des juridictions et des compétences est nette, la confusion qui existait jusqu'ici n'a plus raison d'être. Les dentistes comprendront qu'ils ont besoin de l'organisme de licence, le Collège, et de l'organisation provinciale, l'ACDQ.

Le rapport recommande que l'Ordre (que l'on appelait jusqu'ici le Collège) soit formé à majorité absolue de dentistes élus par leurs confrères. Mais le gouvernement verra à ce que d'autres membres, nommés par le lieutenant-gouverneur en conseil siègent aussi. Ils représenteront les universités, les associations concernées, la public consommateur et les ministères intéressés.

Dans une ère où le consommateur réclame (et avec raison) de plus en plus son mot à dire en ce qui concerne les produits et les services qu'il achète avec son argent, il était évident que le public, par l'entremise des gouvernements et autres groupes intermédiaires, voudrait être représenté au niveau des professions. Comme nous n'avons rien à cacher, leur présence aidera peut-être à dissoudre la méfiance dont la population a déjà fait preuve envers les professions.

La commission a recommandé d'instaurer des tribunaux de discipline de première et de deuxième instance, avec droit d'appel devant les tribunaux de droit commun. A nouveau, la participation de tiers partis permet une plus grande objectivité. Leur influence ne peut donner lieu qu'à une profession encore plus forte et plus saine.

Le rapport Castonguay a proposé d'éliminer le pouvoir de réglementer les conditions d'admission à l'étude de la profession dentaire et a recommandé la mise en place d'un diplôme d'Etat. Cette dernière clause est à surveiller étroitement. Il est indispensable que la profession conserve la surveillance de la qualité des diplômés et n'abandonne pas cette importante obligation aux mains de bureaucrates gouvernementaux. Le danger existe que les besoins minimaux d'éducation soient réduits au plus petit dénominateur commun afin de "sortir" un plus grand nombre de dentistes. On laisse alors la porte grand'ouverte à la dégringolade de la qualité des soins dentaires. Il incombe à la profession de veiller à ce que cette situation ne se développe pas.

Reliure pour le Journal — L'Association Dentaire Canadienne a fait les ententes nécessaires pour permettre aux lecteurs de son Journal de faire relier les numéros de 1969, s'ils n'en ont pas eux-mêmes la possibilité. Les abonnés qui le désirent, peuvent envoyer leur commande accompagnée des 12 numéros du Journal, à la Carswell Printing Co., Bindery Division, 245 Bartley Drive, Toronto 16, Ont. Les 12 fascicules seront reliés en beau bougran bleu avec le titre, l'année et le numéro du volume repoussés or. Le prix est de \$5 plus l'affranchissement pour la réexpédition.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association Dentaire Canadienne. Vous êtes invités à participer à cette section du Journal.

CFDE

Thanks so much for the fine news coverage in the August issue of the JCDA.

My appointment as chairman of the Board of Trustees of the Canadian Fund for Dental Education is an honour, and a responsibility which I accept.

The Board of Governors of the Canadian Dental Association in their sound judgement have appointed trustees to our board who are dedicated, capable, and possess the desire to pilot CFDE on a continued course of success. The roster would make any chairman happy. It includes Charlie Peirce, Toronto, vice-chairman; Mark Boyes, DDS, Toronto; Henri Brouillet, DDS, Montreal; Harold Hillenbrand, DDS, Chicago; Max Lipkind, DDS, Calgary; Shep Margolese, DDS, Vancouver; Bill McIntosh, DDS, Toronto; Jim McLean, DDS, Halifax; with a plus in having Murray McDonald as our CFDE executive director.

I know you would wish to join me in extending an expression of appreciation to those founding members of the previous board who have retired following years of faithful service. They are Louis Lepine, DDS, of Montreal and Harvey Reid, DDS, of Toronto. Gentlemen, take a bow and accept our sincere thanks.

Fortunately, our previous chairman, and chairman since the inception of CFDE, will remain with us as a trustee. I refer to J.D. McLean, dean of Dalhousie University dental faculty, Halifax. We are grateful in having such experience and wisdom available to us.

A word to the many who are yearly contributors to CFDE. It is obvious that without your financial assistance there would be no Canadian Fund for Dental Education. You have been responsible for the dream in 1962 maturing to the image reflected in our 1969 progress report. Accolades for the past; we rely on your continued assistance for a realistic future.

Does this mid-year resolution hold a challenge for you? "Have a non-contributing friend join with you as a 1970 contributing member." I hope so!

*M. E. "Bud" Bower, Chairman
CFDE Board of Trustees
Toronto*

Cardiopulmonary resuscitation

Doctor Gaum has outlined simply and directly the necessary steps for survival of a patient requiring cardiopulmonary resuscitation (April Journal). He has followed the basic formula, "KISS = Keep It Simple Sam." One can almost say to oneself, "Look Mom, no equipment." Doctor Gaum's article should be retained and reviewed by the dentist and his staff for instant application in or out of the office.

*F. J. Phillips, DDS
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Brockville, Ont*

Professional incorporation

I like Mr. Orr's article "Professional Incorporation in British Columbia" in the July issue. This type of contribution helps practising dentists by informing us about the advantages and disadvantages of incorporation. It also enlightens us as to the present Income Tax Act and the federal government's proposals for tax reform.

The practising dentist, being an independent business man and unlike the salaried person with a built-in pension, must accumulate by his own industry and business acumen whatever he will against the day of retirement or sickness. Articles such as Mr. Orr's should help us to make better judgements with respect to business matters.

It is difficult to know what proportion of the profession takes advantage of the provision in the present Income Tax Act which permits them to write off losses in other business ventures against their professional income. These ventures usually show losses while building up capital gains. They are launched at a time when this is considered advantageous because it reduces tax during high income earning years in favour of a later capital gain when income may be lower or when the dentist has retired. Those who are in this situation should see how incorporation would affect them in view of the possible "tax disadvantages" referred to by Mr. Orr.

The method of deferring tax liability as described in item 5 under "tax advantages" may also be useful. Dentists have for some time been penalized by being allowed to put only \$2,500 per year into a registered retirement savings plan as against the \$3,000 allowed an employee of a corporation (\$1,500 by employee, \$1,500 by the corporation). The self-employed practitioner as both employer and employee should at least have the same privilege as any regular employee.

I hope that the CDA's representations to the government will reduce this imbalance. However, it is the possibility

of making lump sum contributions to a registered pension plan in later years, with such contributions fully deductible as an expense to a corporation, which is most interesting. This opens the possibility of compensating for the earlier years of practice when it is not possible to contribute the maximum allowable amount to such a plan.

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Nova Scotia fee schedule

Sorry to see in the July Journal (page 249) the erroneous statement that Nova Scotia introduced a new fee schedule in April. Its date of introduction was officially January 1, 1970, well before any suggested withholding of fee changes.

D.C.T. Macintosh, DDS
Secretary
Nova Scotia Dental Association
Halifax, NS

CDA information for students

A recent survey of the dental student body at McGill University shows that information about the Canadian Dental Association is generally lacking and of a general nature.

I wondered whether this was simply a regional problem but came to the conclusion that it was more of a national problem due to the following factors:

First, it is my understanding that under CDA rules and regulations a student representative to CDA must be an executive of the dental student society (DSS) of the university which he represents. I do not know of any dental student body in Canada which has an *elected* representative as its CDA student representative. When I say *elected*, I mean that he has been elected specifically for informing and controlling all CDA student information. Such an *elected* representative could be of great benefit to both the CDA and the dental student body. Better co-ordination between CDA and the universities could ensue. CDA student representation has thus far been a secondary function for some successful DSS candidate who has subsequently been appointed by the DSS president to represent his university. DSS constitutions could be changed or amended to include an *elected* CDA student representative.

Secondly, CDA governors could become more active on the student front

by expanding their role to include articles to the different dental student publications, informing the newly *elected* CDA student representative and meeting periodically with the different student bodies. Articles written by CDA governors could deal with the changes taking place within the dental profession on the national scene as well as the province of residence of that particular governor. CDA's stand on different topics could then be known and discussed at the student level, thus increasing interest in the Association.

The Carleton Cowan Public Relations report prepared for the CDA suggests that the Association's future strength lies with the dental student. Let us begin by informing and by organizing that future strength at the student level.

R.B.J. Dorion
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Bilingualism

I was disappointed at Doctor Ruprecht's denunciation of the use of tax moneys to promote French language teaching in Canada (May Journal).

Though I do not intend to involve myself in a sterile argument against this brand of ignorance, I should like to ask three questions: Do political and emotional polemics have a place in a scientific journal? Do the editors regard this letter as one of communication between dentists only, and not subject to sober restraint by the editors? And do the editors feel that these inflammatory comments will not drive French and English speaking people further apart at a time when more intelligent Canadians are building bridges?

I would say that the answers to these questions are "No." This should not have been printed.

B. L. Mendel, DDS
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Doctor Ruprecht's communication was published as a letter from a dentist who addressed himself to the dental profession. It does not, of course, reflect the opinion of the Canadian Dental Association or the views of the editors. (Ed.)

Lingual arch

Lingual arches (Mehta and Barnett, June Journal) are very tricky appliances, even in the hands of a full-time orthodontist.

I belong to an orthodontic study club in Seattle which is preparing a technique manual for the Universal Appliance—we hope that the C. V. Mosby Company will publish it within a year—and the section on the lingual arch was the most difficult and complicated by far.

I agree with the authors that it is versatile, but I disagree that it is easy to understand and use.

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Fluoridation

I wish to add my appreciation for those who had the foresight and fortitude to fluoridate Brantford's drinking water. The well reported results of the Brantford study have been a tremendous aid to other Canadian communities when promoting fluoridation. Being able to refer to what has happened in Canada is more meaningful to Canadians than always having to refer to statistics from other countries.

Paul Goldstein's article (June Journal) was an excellent account of why we do not have fluoridation in more communities in Canada. I suggest we look again at the people we seek to influence and try other approaches.

Knowledgeable people find it difficult to believe public apathy is one of the major reasons why our society endures a low level of dental health. Yet ponder the example of Vancouver's health department which for many years provided treatment to kindergarten and grade one children. When recent staffing difficulties forced a cut-back restricting treatment to kindergarten children only, there was little or no reaction from the public. In other matters such a change usually produces a public outcry for the people's rights.

The word "fluoridation" seems to initiate negative responses wherever it appears. Perhaps we should suggest that natural fluorides in drinking water are a right people should demand. Fluoride is a nutrient essential to achieve the best possible health. Would people respond to such an idea? They react negatively when we suggest fluoride as an artificial additive.

Unfortunately the mass media choose what they consider newsworthy. It is very difficult for appointed public officials to get media time or space for something that is not sensational. Information on dental benefits from fluoride is usually relegated to some remote section of the newspaper or aired on non-prime time television.

The current practice of holding plebiscites before implementing fluoridation is the wrong way to meet the problem. I believe appointed and elect-

ed officials are shirking their responsibility by passing the decision to the public. With the vast amount of knowledge being disbursed today in all fields it is unrealistic to expect the general public to be "experts" on all matters. In our 1968 fluoridation campaign we were frequently asked, "Why do you ask us to decide on such a scientific, technical matter?" by people who said they would vote "No" because they couldn't fully understand the subject.

With existing laws in British Columbia, the residents here have a long time to wait before they will enjoy the benefits of natural fluoride which they deserve.

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Nutrition and periodontal disease

Parfitt and Speirs' excellent article (June issue) concerning the role of dietary factors—particularly vitamin C—in the treatment and prevention of periodontal diseases is well documented. It repeats and stresses what is common knowledge to all periodontists—that systemic factors may play a role in periodontal disease, but that the chief aetiological factors are still bacteria acting in conjunction with other local factors. The article also stresses that the indiscriminate prescription of vitamin and mineral supplements is unwarranted in the light of present day knowledge; these should only be used when "a specific deficiency of the nutrient can be demonstrated."

Nevertheless, I believe dentists are failing the public if they do not question patients about their diets. Although North Americans are supposed to have an excellent all-round diet, many teenagers have poor diets with excessive carbohydrates. Likewise elderly people living alone frequently do not leave their homes for considerable periods during the cold weather and tend to eat more "out of tins" than do the rest of the population. (Of course, this is not a problem in the beautiful climate of Vancouver!)

A dentist need not be a nutritional expert to question his patients regarding dietary habits and spot serious deficiencies. Though we may be unable to relate such deficiencies directly to

periodontal disease, they certainly play a role in the patient's overall health and may be a direct cause of caries.

Recent work performed at the US National Institute of Health in Washington (Paul Keyes) indicates that dietary changes tend to alter the bacterial flora; so there is still a possible indication for dietary consultation. R. S. Harris, emeritus professor of nutritional biochemistry at the Massachusetts Institute of Technology also stated some 20 years ago that it is well within the dentist's jurisdiction to prescribe an all-round diet to his patients; we should therefore keep an open mind on the subject.

Subject to these personal views, Doctors Parfitt and Speirs should be complimented for their fine article.

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Dentistry and the performing arts

Most noticeable in this day and age is the absence of dentistry from show biz. The only samples we now get are TV commercials where toothbrushing serves as an apparent projection of sexual accomplishments — a doubtful honour for dentistry. Lads and lassies sport about the beach or in swimming pools, in fast boats or on water skis, flashing gleaming white anteriors at each other — and we are to suppose that romance blossoms.

This may all be very useful for the tooth paste manufacturers but it does not help our dental image. There are no popular TV dentists. We have no Doctor Kildare, no "Medical Centre" with a dental subsection. The only thing we can claim are one or two outrageous books which have been published in the past 10 or 15 years. Even these are full of tired old jokes about dentists who pull out the wrong teeth. Needless to say, neither these books nor any others have ever been made into a movie or a musical. In a word — we have no hits, no best sellers.

Unfortunately, few dentists seem to realize just how much they are needed by the performing arts. The constant parade of porcelain jacket crowns on movie screens and television tubes would certainly indicate that many advertised oral hygiene products have not worked for the stars.

And consider the Dick Van Dyke Show. It had a dentist — a friendly, neighbourly chap with wife who popped in from time to time. His only problem consisted in how to paint a garage. He was admirable in every way, and quite unlike those nasty little creatures that burst into kitchens, political meetings and perhaps even into mortuaries shouting "I've only got one cavity." But, alas, the Dick Van Dyke Show is no more and our only reasonable dentist has vanished. I therefore intend to push the CBC into producing a series called "Murgatroyd," where a downtown dentist striving against social injustice dramatically restores the upper left central of the go-getting mayor and, thus, brings happiness to city hall.

What prompted these comments was a recent movie, a spy drama about the Second World War. It had the inevitable chase (which usually occurs at about 10:15 on a Friday or Saturday night) where the hero, with or without a heroine (sans heroine if it is a tragedy, avec heroine if it is a popular feature dedicated to the masses), is being pursued by the villains. To evade their clutches, he was forced to identify himself to the underground and, to my great delight, the verification was done by dental radiographs. The dentist passed our agent on after obtaining a quick antero-posterior radiograph of the lower left molar region. To my mind, this opens up an entirely new vista.

I also recall a press conference at an American meeting some five years ago where a young Australian was demonstrating a radio transmitter which emitted a signal whenever he closed his teeth. One reporter asked if there were any other applications, perhaps hinting at its possible use for transmitting secret messages. Presumably he thought that a spy caught in a 40 gallon drum poised beside the Rhine and about to be sunk in an uncomfortable overlay of cement could then tap out code plans for the ablutions block in Sinkiang province.

Dentistry's failure to achieve recognition in show biz probably betokens a sinister plot by the international world of intrigue where shadowy figures repress and censor the performing arts lest our gimmicks revealed so publicly should expose state secrets; enough reason why all of us should pray for peace in our time and the revival of the dentist as a popular figure, a friendly neighbour in any TV series.

Jean Cives

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

Annual Meetings

Attendance and work arising from the annual business meetings in Winnipeg took up most of the CDA headquarters' staff time during the summer.

A three day Executive Council meeting was held just prior to the Board of Governors' sessions. Another three and a half days of Board and reference committee meetings were held and one additional Council meeting day followed the Board sessions.

Fifteen trunks and large boxes stuffed with agenda, notes, minutes and transactions were shipped to Winnipeg to provide the necessary working papers for the various meetings. Extra staff, typewriters and a Gestetner machine had to be acquired in Winnipeg. While these items are incidental to the workings and decisions of the Board of Governors, they are instrumental in informing the membership, not closely involved with behind-the-scenes activities.

I realize that the 1970 annual meeting and convention details have been well reported in the Journal's August issue, but I would be remiss if I did not publicly thank and compliment Doctor Pres Beattie, Winnipeg convention chairman, and the members of his efficient and enthusiastic committee.

Their care, expertise and efficiency in planning and executing thousands of details made the meetings pleasant and rewarding. I thank them most sincerely.

Canadian dental history

Doctor Don Gullett, CDA archivist and historian, has almost completed the monumental task of writing *The History of Dentistry in Canada*.

The script, which has taken more than five years to research and write, has been presented to the University of Toronto Press for publication. The publishers complimented Doctor Gullett on his material and were enthusiastic about publishing and distributing the book for CDA. Final editorial and indexing

steps are underway and the book is expected to be available in late fall.

It will be the first history of dentistry in this country, and has already attracted considerable interest abroad as well as in Canada. You will be notified as soon as copies are available.

Initial financing of the book was undertaken by CDA library trustees using resources of the Sydney Wood Bradley Memorial Fund. The money will be returned to the fund from book sales. The dental profession is indebted to both Doctor Gullett and to the fund for bringing about this important work.

Science-Technology Canada

The second meeting of Science-Technology Canada (SCITEC) was held in Ottawa, June 15-16. Your executive director attended as CDA's representative to this new national organization which speaks for the scientific and technical community on national issues. Its 29 members represent science, dentistry, medicine, engineering, the social sciences and technology from both English and French-speaking Canada. Interested laymen have also been invited to join.

SCITEC has high ideals and worthy objectives, but is undergoing difficult organizational and financial problems. It is striving to be an influential voice in its efforts to improve the quality of life for Canadians.

At its second meeting, the Council succeeded in approving a constitution and by-laws on which application will be made for federal incorporation. It also authorized an approach to governments for financial assistance to supplement what can be raised from its member organizations and industry.

SCITEC's first non-organizational activity was an Environmental Heritage Conference in Halifax, August 23-25. The meeting attracted leaders of more than 60 national professional societies, representing some 200,000 scientists, engineers and technologists as well as representatives of government, industry and the public.

The conference examined the scientific community's role in understanding and controlling our changing environment.

CDA contributed by supplying a speaker on "Fluoridation of Communal Water Supplies." Brigadier-General B. P. Kearney of Dalhousie University's Faculty of Dentistry delivered the address.

Canadian Forces Dental Services School

For the second year, I was invited to speak to the staff officers and trainees (student officer cadets) at the Canadian Forces Dental Services School on organized dentistry in Canada.

CDA is indebted to Colonel L. G. Craigie, Officer Commanding CFDSS at Base Borden, Ontario, for making these visits possible. They provide a unique opportunity to discuss aspects of organized dentistry with officers and students from across Canada, especially those subjects concerning CDA in which they have an interest. It was a pleasure to visit Borden in July.



Marilyn Dunlop asks Doctor R. A. Clappison, Toronto: "What benefits has dental research brought to the practice of dentistry?" This and many other questions were answered at a recent press conference staged by the Canadian Fund for Dental Education.

Miss Dunlop is a medical writer for the Toronto Daily Star. The other participants were Doctor W. H. Tester, St. Catharines, Ont; Doctor A. T. Storey, Toronto; and Mr. Jack McTavish, Toronto, president of National Refining Co. Ltd. Their free-wheeling discussion touched on practically every facet of dentistry. To find out what was said, read on . . .

cfde meets the press

The following report shows how the Canadian Fund for Dental Education, apart from its obvious role in support of dental education, aids the entire profession by gaining favourable publicity for dentistry. The story records highlights from a recent discussion between several dentists, the president of a dental supply company and the medical writer of one of Toronto's leading dailies. Arranged by CFDE, the forum generated a subsequent newspaper article which showed how dentists are reaching into their own pockets each year, helping to produce more dentists to provide dental care to all who need it.

Often a dentist may say that he psychoanalyses some patients more than he treats their oral problems.

Such a remark may be closer to the truth than the dentist realizes. He may have unknowingly underlined an issue that could shape the future solving of dental problems.

The issue of how to motivate people into taking better care of their teeth kept popping up in a forum of experts held recently at the Canadian Dental Association offices in Toronto.

The discussion was sponsored by the Canadian Fund for Dental Education and focused on two main topics. One was how dental research in the past decade has aided the practising dentist in improving and extending his services. The second related topic was on anticipated research developments.

But the discussion often veered off into areas that at first didn't seem to have a bearing on the physical developments being discussed.

Moderating the forum of experts was Marilyn Dunlop, medical writer for the *Toronto Daily Star*. She later reported on some highlights of the discussion. The story, which appeared in *The Star* on June 29, noted that the experts had said that the average person is not aware of the value of his teeth.

The forum was made up of knowledgeable people from all sectors of dentistry. Representing the dental supply industry was Jack McTavish of Toronto, president of National Refining Co. Ltd. Dental research was represented by Doctor A. T. Storey, associate professor of dentistry at the University of Toronto. Speaking from the standpoint of practising dentists were Doctor W. T. Tester of St. Catharines, Ont. and Doctor R. A. Clappison of Toronto. Doctor Clappison is also a member of the Royal College of Dental Surgeons of Ontario.

Also present was Murray McDonald, CFDE executive director and Doctor Frank Compton, editor of the CDA Journal.

Prevention of oral disease must be the foremost research project by dentistry, the experts agreed, but how do you get the public to cooperate?

Doctor Tester said that most people would rather lose a tooth than their pinky—yet “most of us use our teeth more than we use our little finger.”

The priorities in preventive treatment are caries and periodontal disease, agreed Tester and Clappison.

Marilyn Dunlop set the stage for the motivation topic by asking how the profession reaches the people who need this care most. Children can obviously be

treated in school for caries, but adults with periodontal disease pose the problem.

Doctor Tester said the profession must use the mass news media, but “each individual dentist could do more . . . in the field of education on the benefits of prevention. . . .”

Doctor Storey said that dentists deal with a “somewhat select” segment of the population. These people have some motivation, yet many dentists feel they can be doing a better job in selling the prevention story.

And, then there are possibly 33 to 50 per cent of the population that dentists don't see “and I am willing to bet that it's even more difficult to sell them . . . I see the need for some research in the motivation of these people so that they can help themselves,” he added.

“The dentist has to be keenly enthusiastic himself and pass this enthusiasm on to the patient . . .” said Doctor Clappison.

He pointed to some “highly preventive practices” in the US where there is “a tremendous amount of motivation and the acceptance is very high and the efficiency is very high.” And if the patient doesn't follow through, he no longer is welcome, said Doctor Clappison.

Visual graphics have a big effect, he said, especially some such as the stain test which shows plaque formation.

“People are now very appearance conscious. . . . They see people on television who have good-looking teeth. . . . I think it's difficult, but I think it can be done and I think we as a profession have not done all we can do.

“I think the government has not done through public health all it could do and I think the educational system could do something too. . . . There are many errors and I would agree that this is an area where we need a lot of research in pure motivation techniques and pure enthusiasm,” added Doctor Clappison.

Doctor Tester said that school children seem to follow cleaning guides from TV rather than the directions given by their dentists or public health services.

You've got to catch their eye and interest the youngsters, he said. A “high, high percentage” of new patients haven't been shown the proper way of brushing their teeth, he added.

What surprised Doctor Clappison is the interest shown in pamphlets by patients in the waiting room. Numerous ones have been published by the dentifrice companies, the CDA and the Ontario Dental Association.

“The kids will pick up some of these story-book types that are put out by the profession on dentistry as a career even.”

When the conversation switched around to diets, motivation again came strongly into the picture. Understanding of why people respond as individuals must be researched, said Doctor Clappison. Up to 90 per cent of caries prevention could possibly be reached if dentists had complete control over diets of their patients, he said.

Then there is research needed into the reasons people take up harmful habits such as some drugs which can weaken teeth, or the more common thumb-sucking, which can push teeth out of their proper growth route, said Doctor Tester.

“Is a habit something that we should be curing with some sort of basket, say to stop the thumbsuck-

ing, or should we be looking more into the area of why this child started this thumbsucking in the first place? I really don't feel we know enough about this sort of thing now and we could know a lot more," said Doctor Tester.

Similarly, with drugs, he said: "The drug isn't the disease, the drug is the symptom and so we have to get into a different area altogether." He added that dentists won't deter drug users from using speed, just by telling them they may lose their teeth. "Their problems are far greater than this."

Dentists can help to rehabilitate the patient, "giving advice in the area of how does he clean up his life . . ." said Doctor Tester. "It's something we don't think of as dentistry, but I think we have to think of it as dentistry. . . . We're there to treat the patient, and if this will treat the patient in a beneficial way then we treat this."

Marilyn Dunlop asked: "Should you be working with psychologists and behavioural scientists?"

It's usually the psychologists that approach the dental schools to test their hypotheses, said Doctor Storey. "Yes, I think one has to go to the experts."

In reply to where dental research is taking the profession, Doctor Clappison said: It should convert from a disease-oriented profession to a health-oriented one, taking the positive approach. "It should look at ways to overcome the big problems so that dentists can spread their services to more people."

Doctor Storey said: "There is a possibility that within the next 10 years there may be an effective answer to the control of caries by getting very directly at the cause."

But for periodontal disease, there is less optimism, said Doctor Storey. And the people who treat malocclusion "are going to be in business for a while," he added.

"If you crystal ball gaze, I can see perhaps dentists predicting where the jaws are going to be and then injecting the appropriate magic formula to adjust the growth of the jaws so that they can mould it to a fairly harmonious balance.

"It isn't so far off, because some people have actually used this in precipitating puberty ahead of time or holding it off to effect stature," added Storey.

National Refining's Jack McTavish said: "I don't think that dentistry could have made the strides it's made if it hadn't been for the manufacturers of supplies and equipment." He noted the large amounts being spent by the manufacturers on research and development.

Regarding the shortage of dentists, McTavish pointed out the needs of certain areas.

"I think the dental associations have done a great job in going out and bringing the students in from high school who live in small towns, showing them

the colleges and trying to interest them in dentistry. As a rule, if they come from a small town they will go back to a small town and this is where they need dentistry more than anywhere else."

Doctor Storey also praised the equipment makers, noting as examples of valued developments the local anaesthetics, high-speed rotary instruments, carbide bur and the diamond instrument.

"I think any dentist who doesn't appreciate what the industry has done has his head in the sand," said Doctor Tester. The better tools have helped the manpower situation by allowing the dentist to be more productive, he added.

The number of basic scientists graduating over the next couple of years will likely be adequate, but there is great need for people who have both dental backgrounds and training in basic sciences of varying kinds. They could approach clinical problems in a biological way, said Doctor Storey.

"This is where the Canadian Fund for Dental Education plays an important role in the training of these people," said Doctor Storey.

Murray McDonald added that about 65 per cent of the Fund's resources are spent in this area.

Doctor Compton replied to Marilyn Dunlop's queries regarding the report from the Ontario Committee on the Healing Arts.

As a result, in a *Toronto Daily Star* story, Marilyn Dunlop said: "Recently, dentists have found themselves unflatteringly portrayed as a rigid, unprogressive group doing little to provide dental care to all who need it. The Ontario Committee on the Healing Arts, for example, was one such critic."

The indictment, in the eyes of the dentists, is unfair. Citing the CFDE, Miss Dunlop showed how dentists reach into their own pockets each year to help produce competitors for themselves—something, they say with justification, few businessmen do.

"Last year they pulled out \$60,000 to put into the Canadian Fund for Dental Education. With an additional \$32,000 from business and industry, it is being used to help train more dental teachers. And more teachers mean more dentists can be produced."

"Teachers are often researchers and research can lead to better health care," added the newspaper article.

The foregoing story illustrates just one of the many ways CFDE helps to keep dentistry moving up. With your help it can do much—much more. October is CFDE month. So why not send along your contribution right now!

Canada and the Provinces

Report urges sweeping changes for professions in Quebec

A 100 page report by Quebec's Castonguay Commission which has been looking into health and welfare says that the province's existing mosaic of acts governing specific health disciplines should be consolidated into a single integrated public system of regulation of the healing arts.

The report (Vol 7, Part 1), tabled July 7, deals with reorganization of the health professions.

It calls for a uniform code of legislation affecting three types of organizations representing corporations of licensed health professionals (ordres professionnels), professional associations and professional syndicates or unions.

Professional colleges should relinquish any activities related to the economic welfare of their members in order to concentrate on their primary responsibility, namely protection of the public interest, says the report.

It recommends the formation of a council of health disciplines with regulatory authority over the various areas of the healing arts. A majority of the council's members would be elected by the licensed health professionals; the remainder, representing the professional schools, professional associations, the public and government, would be appointed by the lieutenant governor in council.

The report also says the professions should no longer establish entrance requirements for courses of study. Instead, it says that the entitlement to practise stems from the public through its elected representatives and should therefore be protected by the granting of a state diploma (diplôme d'état) as in France. The corporations of health professionals would, however, continue to certify specialists and would assess the qualifications of foreign graduates.

In the matter of ethics, the commission suggests that certain standards

common to all health areas be incorporated in the proposed uniform code of legislation. Singled out for this purpose are professional secrecy, fees and advertising.

The report also says that disciplinary responsibility should be transferred to new disciplinary boards. Decisions rendered by these boards should be subject to appeal in regular civil courts and open to surveillance by the provincial ombudsman.

Brig.-Gen. J. S. Stewart dies at 93

Brigadier General John Smith Stewart, a pioneer dentist, soldier, civic leader and former member of both the House of Commons and the Alberta Legislature, died in Lethbridge August 14. He was 93.

General Stewart began his military career as a private and was the oldest living artillery officer in Canada.

He was born in Brampton, Ont, May 18, 1877, and moved to Edmonton in 1896. He attended the first normal school in the province and taught at Namao Crossroads.

He later attended Toronto's Royal College of Dental Surgeons, graduating in 1903, and arrived in Lethbridge to set up a practice. He continued the practice for 58 years, retiring in 1960.

In 1957, he received an honorary doctorate of laws from the University of Alberta.

His army life began as a private in the Lord Strathcona Horse Regiment in South Africa in the Boer War.

In 1914, Major Stewart joined the 20th Battery, Royal Canadian Artillery. He went overseas shortly after as a lieutenant colonel in command of the 7th Artillery Brigade.

He later commanded the 4th Artillery Brigade and in 1917 became a brigadier-general in command of the 3rd Artillery Division.

General Stewart was decorated with the Distinguished Service Order, the

Croix de Guerre, and was made a Companion of the Order of St. Michael and St. George. He was twice mentioned in dispatches.

His political life began when he was first elected to the Alberta legislature in 1911 as a Conservative. He was Lethbridge's MPP for 14 years.

He was elected a Conservative MP in 1930 and served in Ottawa until 1935.

Doctor Wallace, Toronto General Hospital director, appointed CMA general secretary

J. Douglas Wallace, executive director of the Toronto General Hospital, has been appointed general secretary of the Canadian Medical Association.

Doctor Wallace, 55, is the sixteenth general secretary in the association's 103 year history. He succeeds A. F. W. Peart, who resigned for health reasons last March after four years in office.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on July 31:

Fixed Income Fund \$10.245;

Common Stock Fund \$18.926.

Total assets (market value) of the plan were \$8,020,701.80.

The following portfolio purchases and sales occurred during the preceding month: bought 200 shares Western Broadcasting; sold 3,500 shares Columbia Pictures; 2,500 shares UAL Inc; 2,500 shares Cenco Instruments Corp; and 3,500 shares URS Systems.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.



G. A. Cormier is president of the New Brunswick Dental Society for 1970-71. The Moncton dentist, who graduated from the University of Montreal in 1942 and served in the Royal Canadian Dental Corps 1942-46, has served on numerous provincial and national dental organizations.

Dental Organizations

Quebec college unveils continuing education program

Quebec dentists will be offered a choice of three methods for updating their clinical knowledge and professional competence under a plan adopted by the College of Dental Surgeons of the Province of Quebec. It consists of:

- an intensified program of two or three day continuing education courses at the province's dental schools;
- increased funding for scientific sessions sponsored by provincial organizations; and
- inauguration of one day meetings for small groups of four to 12 dentists who will receive instruction from specially trained demonstrators. These meetings, the first of their kind in Quebec, will begin this September. They will be held in dentists' homes or other suitable locations.

Paul Dionne, Joliette, chairman of the CDSPQ Continuing Education Committee, expects to reach 200 dentists in 1970-71 alone by organizing 10 small groups in Montreal and an equal number elsewhere in the province.

Orthodontists elect Doctor Derrick

The new president of the Canadian Association of Orthodontists is M. M. Derrick of Ottawa. He succeeds W. F. Campbell of Winnipeg. J. L. Bertrand, Dorval, Que, is president-elect and J. S. Little, Edmonton, is vice-president. J. J. Schachter of Saskatoon, Sask, continues as secretary-treasurer.

Paedodontic academy invites new members

Any paedodontist recognized by his provincial dental association and any dentist who is qualified through graduate studies is eligible for membership in the Canadian Academy of Paedodontics. Application forms are available from R.S. Margolis, 8223 - 105 St, Suite 301, Edmonton, Alta.

Essex County dentists elect new officers

M.A. Haken has succeeded J. Emon as president of the Essex County Dental Society for 1970-71. A.H. Kupsov is vice-president and A.A. Stoyshin is secretary. All are from Windsor, Ont. The treasurer is J.B. Recker of Belle River.

International Items

American Medical Association votes \$40 dues increase

The House of Delegates of the American Medical Association approved a \$40 increase in membership dues - from \$70 to \$110 - during its convention earlier this year.

The increase was sought to overcome a \$2 million deficit and to support new programs and a \$10 million public relations campaign.

Forensic dentistry course in Washington Oct 5-7

Dentists experienced in forensic dentistry, general and oral pathologists, law enforcement officials, lawyers, anthropologists and identification experts will participate at a course in forensic dentistry to be given at the US Armed Forces Institute of Pathology, Washington, October 5-7.

Among the lecture subjects will be recent advances in identification, dental identification in mass disasters, the relationship between forensic dentistry and the US Federal Bureau of Investigation, study of bite marks, and professional liability.

Unique features of the course include a laboratory session of identification of human remains by comparison of dental records and a mock trial depicting the role of the dentist as an expert witness and defendant.

For further information, write to the Director, Attention: MEDEM-PG, Armed Forces Institute of Pathology, Washington, DC 20305, USA.

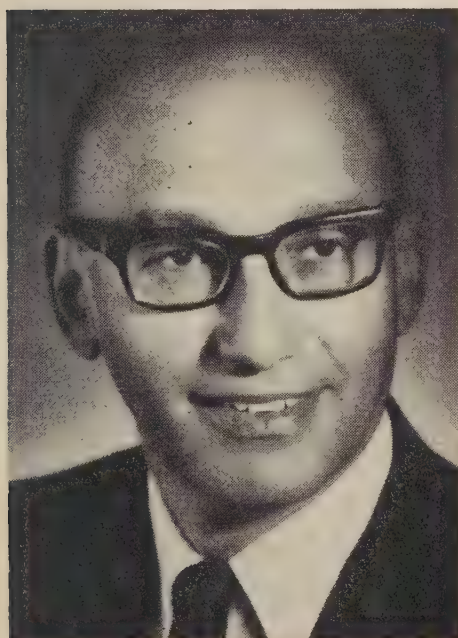
Maxillofacial prosthetics meeting Nov 3-5

Jacques Valiquette, assistant professor at the Université de Montréal, will address the 18th annual meeting of the American Academy of Maxillofacial Prosthetics at the Desert Inn Hotel, Las Vegas, Nevada, November 3-5. His paper will deal with "Radiation Stents and Treatment Appliances" which the dentist can fabricate to ameliorate or eliminate some of the problems in radiation therapy of the oral cancer patient.

Further information can be obtained from Victor Matalon, Room P-723, 1700 Holcombe Blvd, Houston, Texas 77025, USA.

Implant seminar set for November in London

Leonard Linkow will conduct a dental implant seminar in London, England, November 13-15. The course will include a description of the Blade Vent Endosseous Implant as well as all other types of dental implants and their methods of insertion. The reasons for implant failures with screws and pins, and success with blades will be discussed together with the uses of sub-periosteal dental implants for the maxilla.



A. M. Hayes of Vancouver, pictured below, recently succeeded Clifford Ames, also of Vancouver, as president of the Royal College of Dentists of Canada. W. H. Feasby, London, is vice-president and J. E. Speck, Toronto, continues as secretary-registrar-treasurer.

For further details, write to Ronald Cullen, 1 Harley St, London W1, England.

Indian conference at Bombay Dec 27-30

The Indian Dental Association has invited Canadian dentists to attend its Silver Jubilee Dental Conference at Bombay, December 27-30.

Canadian delegates who would like to present lectures or demonstrations should contact D. K. Daftary, 49 Hughes Rd, Bombay 7, India.

Further information about the conference program can be obtained by writing to Naishadh Parikh, India House No 1, Gowalia Tank Rd, Bombay 26, India.

Occlusodontia academy will feature the rationale of implants

Aaron Gershkoff of Providence, Rhode Island, will be the clinician at an all-day closed circuit TV presentation covering the use of various types of implants to be used as distal abutments in edentulous quadrants at a meeting of the American Academy of Occlusodontia on February 13, 1971. The meeting will be held at the Essex Inn, Chicago. For further information please write to F.M. Higgins, 101 N Evergreen Ave, Elmhurst, Illinois 60126, USA.

Canadian dentists invited to Yugoslavia

Canadian dentists have been invited to attend the Winter Medical-Dental Assembly which will be held in Ljubljana and Bled, Yugoslavia, February 26 to March 3, 1971. The theme of the conference will be "Communications in the World of Medicine and Dentistry Today."

Dentists wishing to attend should write to A. T. Wachna, 1520 Ottawa St, Windsor 14, Ont.

Dental Education

Education costs up

Costs of predental and dental education increased over the last year by 3 and 2 per cent respectively, according to the CDA Bureau of Economic Research.

Tuition fees remained fairly stable but costs of textbooks, supplies and incidentals, and living costs rose.

The cost of four years at a dental school and the required number of predental years varied from \$9,809 at the University of Manitoba to \$13,051 at the University of Alberta.

The University of Saskatchewan required a minimum of one year predental training plus five years of dentistry costing \$11,100.

A major reason for the cost variation is that different universities require one, two or three predental years at the university level. The average 1969-70 total annual cost was \$1,573 for predental education and \$2,206 for dental education.

Schools to expand over the next three years

Canada's nine dental schools had a total first year capacity of 453 students in 1969-70, up from 446 the previous year. The schools hope to raise their capacity to 600 over the next four years.

Schools of dental hygiene at five universities — Dalhousie, Toronto, Manitoba, Alberta and British Columbia — can accommodate only 137 students in each of the two years of the program but hope to double their capacity by 1973.

Significant increases in specialty, graduate and postgraduate programs are also foreseen. Specialty (clinical) programs which now have a capacity of approximately 40 are likely to expand to 90 by 1973. Graduate and postgraduate (non-clinical) programs also expect to double their capacity to 130 by 1973.

Faculties association has new executive

Dean S. Wah Leung, Faculty of Dentistry, University of British Columbia, Vancouver, has succeeded J.-P. Lussier of Montreal as president of the Association of Canadian Faculties of Dentistry. W. H. Feasby of London is vice-president and D. V. Chaytor of Halifax is secretary-treasurer.

Doctors Anderson and Twible retire from UOT

Dean Gordon Nikiforuk of the Faculty of Dentistry, University of Toronto, has announced the retirement of two senior staff members: P. G. Anderson, director of clinics and associate dean of undergraduate affairs, who leaves after 33 years' effective service, and R. L. Twible

who vacates the post of chairman of the Department of Prosthodontics.

Two search committees have been appointed to seek out and recommend qualified successors. The search committee for the director of clinics has also been asked to delineate the nature and scope of the duties of this position.

Members of the search committee for the director of clinics are Doctors D. G. Woodside, D. B. McAdam, J. A. Pedler, G. S. Beagrie, J. E. Speck, P. T. Smylski, H. G. Poyton (chairman), and Mr. J. Chabrol (fourth year dental student). This committee solicits names of competent applicants for the post of director of clinics. Interested readers should reply to H. G. Poyton, Chairman, Director of Clinics Search Committee, Faculty of Dentistry, University of Toronto, 124 Edward St, Toronto 101, Ont.

The second committee composed of Doctors C. E. Purdy, W. G. Woods, J. H. Hibberd, A. T. Storey (chairman), A. M. Hunt, G. Nikiforuk and Mr. R. J. Sullivan invites applications for a successor to Doctor Twible. Interested readers should reply to A. T. Storey, Chairman, Prosthodontics Search Committee, Faculty of Dentistry, University of Toronto, 124 Edward St, Toronto 101, Ont.

Educational opportunities

Advanced programs

Applications are being accepted by Dalhousie University, Halifax, for advanced training in a three year graduate program leading to a master of science degree in oral surgery. The program director is F. W. Lovely, head of the Division of Oral Surgery.

One candidate will be accepted on July 1 of each year and will be appointed Intern in Oral Surgery, Resident I and Resident II in Oral Surgery at the Victoria General Hospital, Halifax. Applicants must be eligible for licensure by the provincial dental board of Nova Scotia. Applications must be submitted before January 1 of the year the applicant wishes to commence.

For further information, write to the Registry, Faculty of Graduate Studies, Dalhousie University, Halifax, NS.

New Jersey school names Canadian to paedodontic post

The appointment of M.I. Houpt as associate professor and chairman of the Department of Paedodontics at the dental school of the New Jersey College of Medicine and Dentistry has been announced by I.C. Bennett, dean of the dental school.

Doctor Houpt, a native of Toronto, has been in the United States since 1966. He graduated from the University of Toronto in 1960, and received his MSD in paedodontics in 1968 from the University of Pittsburgh.

Before moving to the United States Doctor Houpt was associated in general and paedodontic practice in Toronto for four years. From 1963-64 he served as a dentist for the Ghanaian Ministry of Health in Ghana, Africa.

While at the University of Pittsburgh Doctor Houpt was an instructor in paedodontics and studied dental education research. He will receive his PhD in higher education in spring 1971.

At the New Jersey college, Doctor Houpt will be responsible for teaching and research in paedodontics. He will also continue research into measurement of clinical performance, individualization of instruction and the development of computer assisted instruction and computer systems for clinical records.

Economics

Quebec adopts medicare plan

Quebec's legislators adopted medicare July 10, but did not fix a date for its coming into effect.

The date depends on progress of negotiations with physicians' organizations over rates the professionals will be paid by the Quebec Health Insurance Authority.

The law will cover dental surgery done in hospitals.

It will be paid for by an 0.8 per cent contribution by employers on their payroll, and scaled contributions by persons earning over \$2,000 (or \$4,000 if married).

Non-participating physicians will not be reimbursed by the government. They will have to collect their fee from the patient as before.

Test supports new functions for auxiliaries

A dentist can increase his productivity by as much as 140 per cent by delegating certain functions to a team of four assistants.

That is one of the preliminary findings in a five year study of the use of auxiliaries at the US Federal Manpower Development Centre in Louisville, Kentucky.

The three-phase study explored two questions: What are the qualitative and quantitative effects of assigning chair-side duties to specially trained dental assistants? And what effect would this have on the productivity of dentists?



Lt.-Col. J. N. Wright



Col. L. R. Pierce



Lt.-Col. J. Chatwin



Lt.-Col. T. D. Cobb

Canadian Forces Dental Services

Four service dentists recently received promotions. They are L. R. Pierce, named colonel, and J. V. P. Chatwin, T. D. Cobb and J. J. N. Wright, promoted to lieutenant-colonel. Col. Pierce, in the Royal Canadian Dental Corps since 1948, has served in Korea and at various army bases, RCAF and naval stations in Canada. Since August 1966 he has been at the Directorate of the Armed Forces Dental Services in Ottawa. On promotion to colonel, July 1, 1970, Pierce was posted to Winnipeg as commanding officer of No 14 Dental Unit and command dental officer, Prairie Region. Lt.-Col. Chatwin was commissioned in 1941, joining the Second Royal Canadian Armoured Regiment and serving with that unit in England, Italy and northwest Europe. Following discharge in 1946, he attended the University of Alberta, graduating in 1951. Private practice in Petrolia, Ont,

and service postings to Canadian Forces Bases Borden, Kingston and Europe were followed by further training in public health dentistry at the University of Toronto in 1965-66. Chatwin now serves as preventive dentistry officer at Canadian Forces Headquarters, Ottawa. Lt.-Col. Cobb was commissioned in the Royal Canadian Corps of Signals, serving in Canada and northwest Europe. After the war he attended Dalhousie University, graduating in 1951. He is presently base dental officer at Canadian Forces Base Gagetown. Lt.-Col. Wright, a graduate of the University of Alberta, has been posted as base dental officer to Cold Lake, Alta. He has served aboard HMCS Ontario, with the United Nations Emergency Force in the Middle East, as an instructor at the Royal Canadian Dental Corps School as well as in various clinics across Canada. Wright earned his MScD in oral pathology at the University of Toronto and is a certified specialist in periodontics.

Phase 1 established base line proficiency for teams consisting of one dentist and one full-time chairside assistant working in two operating rooms and sharing one supportive assistant.

In Phase 2, dental assistants were trained to perform additional procedures usually performed by the dentist. These included placing rubber dam, placing and removing temporary fillings, taking impressions for study casts, placing amalgam and synthetic porcelain restorations in previously prepared cavities, carving and polishing restorations and performing pumice prophylaxis.

Phase 3 employed experimental teams consisting of a dentist and specially trained auxiliaries. Team performance was measured for comparison with base line data gathered in Phase 1.

Preliminary results show that trained dental assistants can perform delegated functions as well as dentists although they may require more time. Productiv-

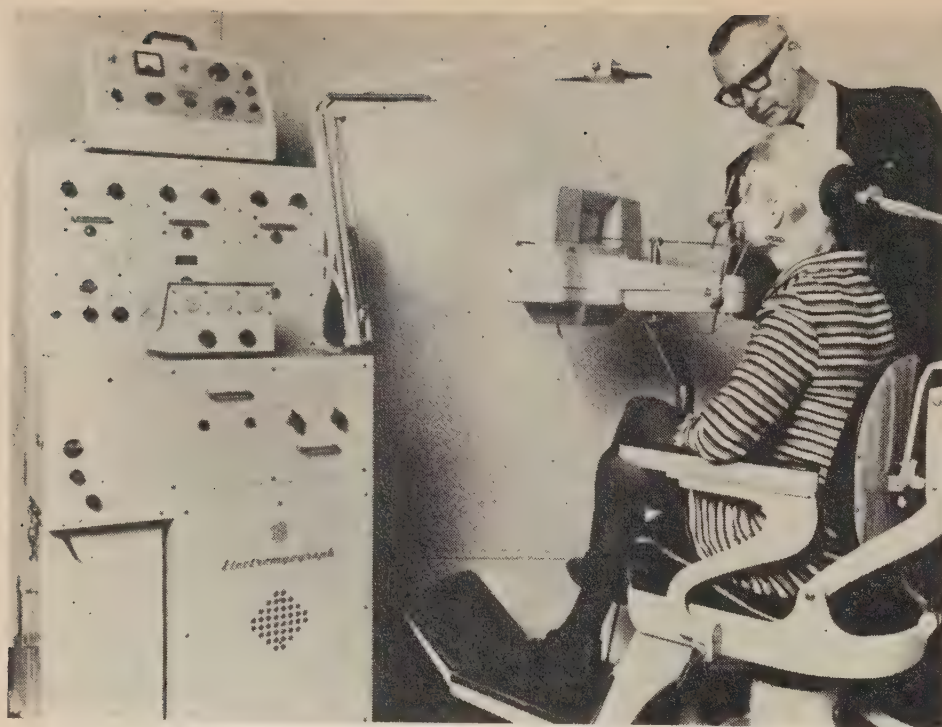
ity with three assistants increased 80 per cent; with four assistants it rose 140 per cent.

The Dental Manpower Development Centre will now begin to train members of the dental profession in the use of the auxiliaries with expanded functions. These professionals include faculties of American schools of dentistry and dental assistants, administrators of clinics, and health directors.

Research

Kinematography: a new technique in occlusal correction

New vistas in neurophysiology may open up for the practising dentist with the invention of the mandibular kine-



Professor C. J. Griffin of the University of Sydney, Australia, is the inventor of the mandibular kinematograph, a machine shown here being used in a test for centric occlusion. Dental kinematography is used in occlusal correction to assess the integrity of the neuromuscular mechanisms subserving masticatory function.

matograph. The machine is the invention of C. J. Griffin who is professor of histology and embryology at Sydney University, Australia.

Doctor Griffin's interest in perfecting a simple and accurate method of overcoming occlusal problems led to the development of dental kinematography. Since developing his apparatus he has treated more than 3,000 patients suffering either from premature tooth contact and/or temporomandibular joint dysfunctions. These conditions are recorded by kinematograms.

Dental kinematography is a technique for use in occlusal correction. Its purpose is to assess the integrity of the neuromuscular mechanisms subserving masticatory function.

Graphs of jaw movements (kinematograms) obtained by this method indicate whether or not the masticatory musculature and centric occlusion are in equilibrium.

Kinematography is described as a "reliable, quick, and relatively easy method for the detection of premature contacts of the teeth." It also monitors occlusal correction procedures.

The machine consists basically of a head positioning device, a recording stylus mounted on a ball joint and a recording panel. It is mounted on an adjustable column and can be used in conjunction with the dental chair as it moves through an angle of 90 degrees, while the mounting column allows a full 180 degrees movement.

The graphs of jaw movements are obtained by the stylus which stems from a chin strap (in turn held by a head gear) through a central pivot on to the moving graph paper. The resulting kinematograms indicate on which side

of the dental arch premature contacts are located and disclose whether they are mesial or mesiobuccal to centric occlusion. The information derived indicates the method of occlusal correction and monitors the therapy.

An assessment of the functional state of the occlusion can be obtained by dental kinematography in approximately 10 minutes, according to Doctor Griffin.

Another organism now implicated in periodontal disease

Howard Bladen, a scientist at the US National Institute of Dental Research, has shown that *Veillonella*, which is usually considered to be a harmless parasite in the mouth and intestines of man and other animals, can greatly increase the root-surface type of dental plaque.

The streptococcal variety of plaque is associated with decay of the smooth surfaces of teeth, while the diphtheroid type of plaque found at or below the gingival margin has been implicated in loss of teeth from gum destruction. Now, Doctor Bladen has shown that in test tubes *Veillonella*, a gram-negative organism very common in the human mouth, can also contribute to the second type of plaque.

Bladen first grew a thin film of plaque on wires in a medium which supported gram-positive diphtheroids, then transferred the wires to another medium which allowed *Veillonella* to grow, but inhibited the diphtheroids. In a few days, the amount of plaque on the wire increased three to four times its origi-

nal size. Gram staining and electron microscopy verified that the outer layers of plaque were composed largely of *Veillonella*.

Since *Veillonella* produces a tissue-destroying endotoxin, it seems probable that if large numbers get a foothold in subgingival plaque they could aggravate periodontal problems.

Propranolol helpful against heart irregularity in anaesthesia

Research at the University of Washington, Seattle, has shown that irregular heartbeats, which may occur during inhalation anaesthesia, can be prevented by selective and cautious use of propranolol hydrochloride (Inderal, Ayerst).

Electrocardiographs recorded heart action before and during surgery. The amount of oxygen, carbon dioxide, and acidity present in the blood was also monitored. The drug (5 mg doses for 18 children; 10 mg for 51 adults) was given by mouth an hour before anaesthesia. A control group of patients were similarly monitored before and during anaesthesia without premedication with propranolol.

Among the adults, six of 24 in the control group developed cardiac irregularity, while only one of the 51 given propranolol did so. All the children had steady heartbeats, as expected. In the control group, heartbeat increased slightly during all stages of anaesthesia, whereas with the drug, heartbeat increased somewhat during induction of anaesthesia, and decreased moderately during surgery.

Because propranolol is a beta-adrenergic blocking drug, it can sometimes slow heart rate and lower blood pressure too much for successful surgery. It must therefore be used with caution, and patients should be monitored for unfavourable responses to the drug prior to anaesthesia.

Heart muscle, although controlled by beta-receptor nerves, reacts somewhat differently from other smooth muscles to certain beta-blocking drugs. Because propranolol has a competitive type of blocking action, a moderate amount serves to steady cardiac muscle contractions under the influence of common gaseous anaesthetics. But in some circumstances the drug will strongly block heart action.

Public Health

CPHA dental section elects officers

James McGaughey, Toronto, was named chairman of the Dental Health Section, Canadian Public Health Association, at the CPHA annual meeting May 21 in Winnipeg. He succeeds C. H. McCormick, Winnipeg. Doctor McGaughey is director of dental services with the Toronto Department of Public Health.

Named as vice-chairman was R. E. Feasby, consultant in public health dentistry to the Ontario Department of Health. R. E. McDermott, Toronto, is secretary.



James McGaughey

with 94.9 per cent, Manitoba with 88.2 per cent, and Ontario with 76.9 per cent.

These and other statistics appear in the latest edition of *Fluoridation in Canada as of January 1, 1970* published by the CDA Bureau of Public Information. Single copies may be obtained by writing to the Bureau of Public Information, Canadian Dental Association, 234 St. George St, Toronto 180, Ont.

Challenge Nader on fluorides

The voluminous literature on water fluoridation continues to prove that it is a "safe and effective public health measure," according to the US Public Health Service.

Replying to statements made by consumer expert Ralph Nader that fluoride in air, water and food may have a cumulative effect, the PHS statement pointed out that: "the impressive body of information available concerning community water fluoridation and fluorides is constantly increasing and continues to support the validity of community water fluoridation as a safe and effective public health measure."

Fluoridation

Seven million Canadians drink fluoridated water

As 1970 began, 7,016,172 Canadians were using fluoridated water daily, including nearly 200,000 using water containing naturally occurring fluoride. These persons lived in 554 communities, served by 474 water systems. Percentages of population using these supplies represent 33.4 per cent of the population of Canada and 46.2 per cent of the possible total for fluoridation (those on piped drinking water).

Among provinces and territories, the Yukon now leads in percentage of total population on piped drinking water and using water fluoridation (100 per cent), followed by the Northwest Territories

Deaths

Bellemare, Alphonse. 70. Acton Vale, Qué. Université de Montréal, 1927. 14-6-70.

Carr, Ernest Albert. 63. Harrow, Ont. University of Toronto, 1930. 19-6-70. Survived by Ila (wife); Charles, John, Glenn and Carol (sons); Mrs. Donald Ewing (sister); and two grandchildren.

Gosnell, J. B. Saint John, NB. University of Pennsylvania, 1918. 26-6-70. Survived by Vita (wife); Doctor J. E. (son); Catherine (daughter); Thomas L. (brother); Misses Ellen C. and Beatrice (sisters); and three grandchildren.

Gosselin, J. Maurice. 75. Montréal. Université de Montréal, 1922. 12-7-70.

Moss, Norman B. 56. Calgary, Alta. Uni-

versity of Minnesota, 1938. 3-7-70. Survived by Evelyn (wife); Leslie, Mortie and Richard (sons); Mrs. Pas-sy Moscovitch (mother); one brother and six sisters.

Olmstead, William James. 70. Qualicum Beach, BC. University of Toronto, 1926. 12-7-70.

Reid, Herbert William. 84. Toronto. Royal College of Dental Surgeons of Ontario, 1908. 3-8-70. Survived by Mary Lenore (wife); Mrs. Murray Cougle and Mrs. Jack Stancliffe (daughters); George James (brother); and Mrs. Jane Robertson, Mrs. Edith Hamilton and Adelina Reid (sisters).

Stott, Nita Kinsella. 70. Toronto. Royal College of Dental Surgeons of Ontario, 1923. 3-8-70. Survived by John Terence and James B. (sons); and Mrs. R. P. Holmes (daughter).

Walker, Harold Brock. 76. Toronto. Royal College of Dental Surgeons of Ontario, 1918. 6-8-70. Survived by Ethelwyn (wife); Mrs. G. E. Dodington (daughter); Dr. R. R. Walker (brother); Mrs. E. M. Fergus and Mrs. L. VanDuzer (sisters); and five grandchildren.

Ward, Arthur Ernest. 60. Fort William, Ont. University of Toronto, 1934. 20-5-70.

Wetmore, Selby Kavanaugh. 63. Saint John West, NB. University of Toronto, 1929. 12-7-70. Survived by Sigurlena (wife); Mrs. Stanley Cooper and Mrs. Victor Gardiner (daughters); three grandchildren and one nephew.

Wynne-Jones, Alun. 78. Sarnia, Ont. Royal College of Dental Surgeons of Ontario, 1919. 4-7-70. Survived by Nellie (wife); Mrs. Donald McKee (daughter); John (brother); Mrs. Nesta Green (sister); and one granddaughter.

Awards and Appointments

J.H. Johnson, Toronto, will be made an honorary life member of the Academy of Dentistry, Toronto, when that organization holds its annual dinner at the Royal York Hotel, October 28.

Le Canada

Un nouveau système pour l'organisation des professions au Québec

Le rapport de la Commission Castonguay concernant la réforme des corps professionnels a été rendu public le 7 juillet.

La commission a proposé un système unifié et public de droit professionnel et retire aux collèges, considérées en tant que garantes d'une discipline, tout rôle économique de groupe social pour accentuer celui d'agent de la collectivité.

Un code des professions remplacera la mosaïque actuelle des lois relatives aux occupations. Ce code comprendrait des dispositions générales relatives à trois genres d'organismes: l'ordre professionnel, l'association professionnelle et le syndicat professionnel.

La commission recommande que le conseil des ordres soit formé à majorité absolue de membres élus par leurs confrères et pour le reste, de membres nommés par le lieutenant-gouverneur en conseil sur la recommandation des milieux d'enseignement concernés, des associations concernées, du public consommateur et des fonctionnaires des ministères intéressés. Les membres nommés par le lieutenant-gouverneur en conseil ne devront pas tous exercer l'activité professionnelle en question.

Le rapport propose de supprimer le pouvoir de réglementer les conditions d'admission à l'étude d'une profession et recommande la mise en place d'un diplôme d'Etat.

Les ordres conserveraient le pouvoir d'octroyer les certificats de spécialisation, de même que celui de juger l'équivalence des diplômes étrangers et de vérifier la compétence de leurs détenteurs.

Certaines normes générales d'éthique devront être inscrites dans le code des professions et s'appliqueront uniformément à tous les ordres, touchant

notamment le secret professionnel, les honoraires et la publicité.

La commission recommande également des tribunaux de discipline de première et de deuxième instance, avec droit d'appel devant les tribunaux de droit commun et une surveillance de la part du protecteur du citoyen.

L'Association du Manitoba propose un programme dentaire bénévole

L'Association Dentaire du Manitoba a proposé un programme dentaire bénévole selon lequel les dentistes manitobains pourvoient gratuitement aux soins dentaires des enfants "adoptés" par l'entremise de la Société de l'assistance aux enfants.

Le projet, connu sous le nom de "Programme d'adoption dentaire", devrait finalement comprendre environ 200 dentistes et plusieurs centaines d'enfants à travers toute la province.

Les jeunes patients seront recommandés à l'association par les divers bureaux de l'assistance sociale. Les dentistes volontaires se tiendront responsables de fournir des soins dentaires aux enfants à partir de l'âge de quatre ou cinq ans jusqu'à la fin de leur adolescence.

Les femmes des dentistes participeront également au programme. Elles s'occuperont du déplacement et du transport des enfants lors de leurs rendez-vous chez le dentiste.

Le Dr Wallace devient secrétaire général de l'AMC

Le Dr J. Douglas Wallace, directeur général du Toronto General Hospital, a été nommé secrétaire général de l'Association Médicale Canadienne.

Le Dr Wallace, âgé de 55 ans, devient le 16e secrétaire général de l'association fondée en 1867. Il succède au Dr A. F. W. Peart, qui a pris sa retraite pour des raisons de santé en mars dernier après quatre ans de service.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 juillet:

Fonds à revenu fixe \$10.245;

Fonds d'actions ordinaires \$18.926.

L'avoir total (valeur marchande) du régime se montait à \$8,020,701.80.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat, 200 actions de Western Broadcasting; vente 3,500 actions de Columbia Pictures; 2,500 actions de UAL Inc; 2,500 actions de Cenco Instruments Corp; et 3,500 actions de URS Systems.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Chronique internationale

Un dentiste ontarien sert dans les îles Caraïbes

Le docteur G.B. Shillington, de Manotick près d'Ottawa, a été le premier dentiste canadien à participer au programme d'assistance dentaire qui a été lancé dans la région des îles Caraïbes. Colonel retraité des Services dentaires des Forces Armées Canadiennes, le Dr Shillington a passé le mois de juin dans les îles Turks et Caicos, le groupe d'îles situées à l'extrême sud des Lucayes, où il a remplacé le seul dentiste de la région qui était en congé.

Le Dr Shillington a servi sous le programme d'assistance dentaire qui a été préparé conjointement par l'Association Dentaire Canadienne et le Service administratif canadien outre-mer (voir aussi "Playground with a problem", page 127, numéro d'avril du Journal). L'administration des îles Turks et Caicos a

tellement apprécié les services du dentiste canadien qu'elle a fait une autre demande d'assistance dentaire de la part du Canada.

Un comité sous la direction du Dr G.E. Burgman de Niagara Falls, en Ontario, est chargé du programme d'assistance dentaire ADC-SACO. Le comité encourage les volontaires à joindre ce programme et les lecteurs intéressés sont priés de s'adresser au Dr Burgman, 1709 Main Street, Niagara Falls, Ont.

L'Association Médicale Américaine augmente sa cotisation de \$40

La Chambre des délégués de l'Association Médicale Américaine a approuvé une augmentation de \$40 de sa cotisation qui passera maintenant de \$70 à \$110.

Cette augmentation doit couvrir un déficit de \$2 millions et aussi financer de nouveaux projets et une campagne de relations publiques de \$10 millions.

Les organismes dentaires

Le Dr Millar devient président des chirurgiens buccaux canadiens

Le dentiste montréalais, le Dr E. P. Millar, vient de succéder au Dr P. Smylski, de Toronto, en tant que président de la Société Canadienne des Chirurgiens Buccaux. A. E. Swanson, de Vancouver, sert comme président désigné et K. C. Bentley, de Montréal, comme secrétaire-trésorier.

Ont été élus conseillers: Maritimes: F. W. Lovely, de Halifax; Québec: P. Surprenant, de Sherbrooke; Ontario: H. F. Biewald, d'Ottawa; Provinces des Prairies: S. M. Claman, de Winnipeg et Colombie-Britannique: P. H. Trester, de Vancouver.

Elections à la société de stomatologie médico-légale

Le premier président de la Société canadienne de stomatologie médico-légale a été choisi dans la personne du Dr J.D. Purves de Toronto. Le Dr E.A. White, également de Toronto, sert en tant que président désigné. Le Dr Knut Pedersen, de London, Ont, est secrétaire-trésorier.

La nouvelle société a tenu son assemblée fondatrice le 2 juillet au cours du congrès national de l'Association Dentaire Canadienne à Winnipeg.

Plus que 40 réponses avaient été reçues suite à la proposition de fonder la société, qui avait été publiée dans le numéro de février du Journal de l'ADC. Il y avait 13 dentistes présents à l'assemblée fondatrice à Winnipeg.

Le Dr Purves a fait savoir que le coroner en chef de l'Ontario, le Dr H.B. Cotnam, était intéressé à collaborer avec la nouvelle société. La SCSM pense donc à établir un commencement d'équipe à Toronto qui pourrait donner naissance à d'autres groupes régionaux et provinciaux. Le Dr K.F. Pownall, de Toronto, a été nommé conseiller et veillera à la formation de ce premier groupe. La société espère aussi tenir bientôt une conférence d'étude.

L'économie

Québec adopte l'assurance-maladie

Les législateurs québécois ont adopté le projet de loi de l'assurance-maladie le 10 juillet dernier, mais ils n'ont cependant pas pu fixer une date pour son entrée en vigueur.

La date dépend du progrès des négociations avec les organismes syndicaux sur les honoraires que les professionnels recevront de la Régie de l'assurance-maladie du Québec.

La loi couvre la chirurgie dentaire effectuée dans le milieu hospitalier.

L'assurance-maladie sera amortie par une contribution des employeurs de 0.8 p.c. sur les feuilles de paie, et par des contributions échelonnées de ceux dont le revenu dépasse \$2,000 (ou \$4,000 s'ils sont mariés).

Les praticiens désengagés ne seront pas remboursés par le gouvernement. Ils devront percevoir leurs honoraires du patient comme auparavant.

Une étude favorise la délégation de nouvelles fonctions aux auxiliaires

Un dentiste qui délègue certaines fonctions à une équipe de quatre assistantes peut augmenter sa productivité jusqu'à 140 p.c.

Telle est la conclusion préliminaire d'une étude sur les auxiliaires d'une durée de cinq ans effectuée à Louisville, au Kentucky, par le Centre fédéral du développement de la main-d'oeuvre des E.-U.

L'étude a examiné deux questions en trois phases: Quel effet la délégation de certaines tâches à des auxiliaires dentaires dûment formées a-t-elle sur la quantité et la qualité des soins? Et de quelle manière ce partage du travail influence-t-il la productivité du dentiste?

Dans la Phase no. 1, une ligne de fond de compétence a été établie pour une équipe composée d'un dentiste et d'une assistante au fauteuil à plein temps travaillant dans deux cabinets d'opération et partageant une deuxième assistante.

Dans la Phase no. 2, les assistantes dentaires ont appris à faire certains actes supplémentaires habituellement exécutés par le dentiste lui-même tels que: mettre en place la digue de caoutchouc, mettre en place et retirer les obturations temporaires, prendre des empreintes pour les modèles d'étude, placer des obturations à l'amalgame et en porcelaine synthétique dans des cavités préparées au préalable, finir et polir les obturations et nettoyer les dents à la ponce.

Des équipes expérimentales constituées d'un dentiste et d'auxiliaires spécialement formées ont été étudiées dans la Phase no. 3. Le fonctionnement de ces équipes a été évalué afin de le comparer aux données fondamentales compilées dans la Phase no. 1.

Les résultats préliminaires ont démontré que les assistantes dentaires dûment formées peuvent remplir les tâches qui leur sont déléguées aussi bien que le dentiste, bien qu'elles y prennent plus longtemps. La productivité a augmenté de 80 p.c. avec trois assistantes; avec quatre assistantes l'augmentation était de 140 p.c.

Le Centre de développement de la main-d'oeuvre dentaire a maintenant l'intention de donner des cours aux membres de la profession dentaire dans l'emploi des auxiliaires aux fonctions élargies. Ces professionnels proviennent des facultés dentaires américaines et des rangs des assistantes dentaires, des administrateurs de cliniques et des directeurs de santé.

L'enseignement dentaire

L'Association de l'Alberta demande l'éducation permanente

L'Association Dentaire de l'Alberta a demandé des changements radicaux qui exigeraient que le dentiste se tienne au courant des progrès qui se font dans l'art dentaire.

Dans le but d'arriver à cet objectif l'organisation a approuvé, en principe, une résolution demandant les modifications nécessaires à la loi dentaire provinciale.

En approuvant cette résolution, le Bureau de Direction de l'association a décidé de demander des modifications à la loi afin d'exiger de chaque dentiste de suivre des cours d'éducation permanente. Ainsi l'éducation permanente deviendra une nécessité préa-

lable ou renouvellement annuel de la licence.

Une nouvelle licence serait décernée tous les cinq ans. Toutefois chaque dentiste devra obtenir, chaque année, un certain nombre de points pour prendre connaissance des derniers progrès de la science dentaire. Il ne lui sera pas permis d'acquiescer tous les points nécessaires durant la cinquième année ou durant le cours d'une seule année de la période de cinq ans.

C'est dans le but de "protéger le public à l'aide des techniques dentaires modernes" que l'éducation permanente des dentistes est demandée", a déclaré le Dr A. D. Sparrow, de Calgary, président sortant de l'association albertaine.

M. E. Bower choisi président du FCED

M. M.E. Bower, ancien président de la Dental Company of Canada Ltd (Denco) a été choisi président du conseil d'administration du Fonds Canadien pour l'Enseignement Dentaire. Il succède au Dr J. D. McLean, doyen de la faculté dentaire de l'Université Dalhousie à Halifax.

Henri Brouillet, de Montréal et M. G. Boyes, de Toronto, ont été choisis administrateurs; ils succèdent aux docteurs Louis Lépine, de Montréal et H. W. Reid, de Toronto.

Quatre nouveaux administrateurs ont également été nommés: Sheppard Margolese, de Vancouver; J. D. McLean, de Halifax; W. G. McIntosh, Directeur général de l'ADC et Harold Hillenbrand, de Chicago, ancien directeur général de l'Association Dentaire Américaine et président désigné de la Fédération Dentaire Internationale.

Maintiennent leurs fonctions d'administrateurs: M. C.E. Peirce, de Toronto, président de la compagnie Ash Temple Ltd et M. J. Lipkind, de Calgary.

Onze dentistes deviennent membres du Collège royal

Le Collège royal des chirurgiens-dentistes du Canada a accepté comme membres 11 dentistes appartenant aux diverses spécialités de la dentisterie. La cérémonie a eu lieu à Winnipeg pendant le congrès national de l'Association Dentaire Canadienne.

Le nombre de membres qui ont été choisis par le Collège durant les six dernières années s'élève maintenant à 209. Il n'y a que quelques centaines de dentistes parmi les 7,000 praticiens au Canada qui exercent une spécialité dentaire.

Ont été choisis membres: les docteurs M.G. Badner, Paul Chapnick, V.N.

Direnfeld et H.I. Taub, tous de Toronto; R.M. Perry et G.W. Street, de Calgary; R.L. Tegart et R.S. Margolis, d'Edmonton; et V.B. Griffiths, de Roxboro, Québec.

Les docteurs J.M. Grahame et R.G. Ellis, de Toronto, ont été nommés membres honoraires. Le Dr Grahame, qui est à la retraite, est l'un des anciens présidents de l'Association Dentaire du Manitoba. Le Dr Grahame et le Dr Ellis, ancien doyen de la faculté dentaire à l'Université de Toronto, ont été honorés en reconnaissance de leurs contributions à l'hygiène dentaire au Canada.

Hausse du coût de l'éducation

Selon le Bureau des recherches économiques de l'ADC, le coût des études prédentaires et dentaires a augmenté de 3 et 2 p.c. respectivement au cours de l'année dernière.

Bien que les frais de scolarité ont peu changé, le prix des manuels, des instruments et le coût de la vie ont cependant augmenté.

Le coût d'un cours de quatre ans d'études dentaires et du nombre prescrit d'années prédentaires a varié entre \$9,000 à l'Université du Manitoba et \$13,051 à l'Université de l'Alberta.

L'Université de la Saskatchewan ne demande qu'un minimum d'une année d'instruction prédentaire, plus cinq années d'études dentaires pour un total de \$11,000.

Le coût varie d'une place à l'autre parce que les diverses universités exigent soit une, deux, ou trois années d'études prédentaires au niveau universitaire. Le coût annuel moyen pour l'année 1969-70 s'est élevé à un total de \$1,573 pour l'instruction prédentaire et à \$2,206 pour les études dentaires.

Les écoles dentaires seront élargies au cours des trois prochaines années

En 1969-70 les neuf écoles dentaires du Canada avaient une capacité totale de 453 étudiants de première année, une augmentation de 7 comparé à l'année précédente. Les écoles espèrent augmenter leur capacité à 600 au cours des quatre prochaines années.

Les écoles d'hygiène dentaire affiliées à cinq universités-Dalhousie, Toronto, Manitoba, Alberta et Colombie-Britannique - ne peuvent accommoder que 137 étudiantes dans chaque année du cours de deux ans. Elles espèrent cependant doubler ce nombre d'ici 1973.

Selon les prévisions, les programmes de spécialité et les cours de perfection-

nement seront également largement élargis. Les programmes en spécialités (cliniques) avec une actuelle capacité d'environ 40 étudiants passeront probablement à 90 d'ici 1973. D'ici là, les autorités universitaires espèrent également doubler la capacité des cours de perfectionnement non-cliniques à 130.

L'Association des facultés dentaires choisit un nouveau président

Le doyen S. Wah Leung, de la faculté dentaire à l'Université de la Colombie-Britannique à Vancouver, vient de succéder au Dr J.-P. Lussier, de Montréal, en tant que président de l'Association des Facultés Dentaires Canadiennes. W. H. Feasby, de London, sert comme vice-président et D.V. Chaytor, de Halifax, comme secrétaire-trésorier.

La recherche

La kinématographie: une nouvelle technique dans la rectification de l'occlusion

Dans le domaine de la neuro-physiologie, l'invention de la kinématographie mandibulaire révèle de nouvelles perspectives pour le praticien. Le Dr C. J. Griffin, professeur d'histologie et d'embryologie à l'Université de Sydney, en Australie, est l'inventeur de l'appareil.

C'est l'intérêt qu'a pris le Dr Griffin à perfectionner un procédé simple et exact pour résoudre les problèmes de l'occlusion qui l'a amené au développement de la kinématographie dentaire. Depuis lors il a soigné plus de 3,000 patients souffrants de contacts prématurés des dents et/ou d'une dysfonction de l'articulation temporo-mandibulaire. Ces conditions sont enregistrées à l'aide de kinématogrammes.

La kinématographie dentaire est une technique employée dans la rectification de l'occlusion. Elle sert à déterminer l'état du mécanisme neuro-musculaire qui aide à la fonction masticatoire. Ces conditions sont enregistrées à l'aide de kinématogrammes.

Les tracés des mouvements maxillaires (kinématogrammes) obtenus avec cette méthode indiquent si la musculature masticatrice et l'occlusion centrée sont en équilibre ou non.

La kinématographie a été qualifiée comme étant une méthode "sûre, rapide et relativement facile pour découvrir les contacts prématurés des dents".

Les éléments principaux de l'appareil sont: un dispositif pour déterminer la position de la tête, un style enregistreur monté sur un joint sphérique et un ta-

bleau enregistreur. L'appareil est monté sur une colonne réglable; il peut être utilisé de concert avec le fauteuil dentaire et décrit un arc de 90 degrés, tandis que la colonne de montage permet un mouvement de 180 degrés.

Le style qui descend d'une mentonnière (celle-ci à son tour tenue en place par un casque) rend les tracés des mouvements maxillaires à l'aide d'un pivot central qui les enregistre sur un papier quadrillé. Les kinématogrammes indiquent de quel côté de l'arc dentaire sont localisés les contacts prématurés et révèlent s'ils sont en position mésiale ou mésiobuccale relativement à l'occlusion centrée. Les indications ainsi obtenues indiquent la méthode de rectification de l'occlusion à employer.

Selon le Dr Griffin l'appareil de kinématographie dentaire rend une analyse de l'état fonctionnel de l'occlusion en environ 10 minutes.

Un autre organisme est maintenant mis en cause dans les maladies périodentaires

Le Dr Howard Bladen, un chercheur du U.S. National Institute of Dental Research a démontré que la *Veillonella* qui est généralement considérée comme étant un parasite inoffensif dans la bouche et les intestins de l'homme et d'autres animaux, peut grandement accroître le type de plaque dentaire qui se forme sur les racines des dents.

Le type de plaque dû aux streptocoques est associé à la carie des surfaces lisses des dents, tandis que le type diphtérique observé en dessous ou au niveau du bord gingival a été impliqué dans la perte des dents causée par la destruction des gencives. Or, le Dr Bladen a prouvé que dans les éprouvettes, la *Veillonella*, qui est un organisme gram-négatif d'occurrence ordinaire dans la bouche humaine, peut aussi contribuer au deuxième type de plaque.

Le Dr Blande a d'abord cultivé une faible couche de plaque sur des fils dans un milieu de culture qui favorise

le développement des diphtéroïdes gram-positives pour ensuite transférer les fils à un autre milieu qui a permis à la *Veillonella* de se reproduire et en même temps inhibait les diphtéroïdes. En quelques jours, le volume de la plaque sur les fils avait triplé ou quadruplé. A l'aide de la méthode de Gram et de la microscopie électronique le chercheur a vérifié que les couches extérieures de la plaque étaient composées en grande partie de *Veillonella*.

Puisque la *Veillonella* produit une endotoxine qui détruit les tissus, il paraît probable qu'elle pourrait empirer la maladie périodentaire si elle prend pied en grande quantité dans la plaque sous-gingivale.

La fluoration

Sept millions de Canadiens consomment de l'eau fluorée

Au début de l'année 1970, 7,016,172 Canadiens consommaient de l'eau fluorée chaque jour, y compris environ 200,000 dont l'eau possède un contenu naturel de fluor. Ces personnes habitent 554 communautés desservies par 474 services des eaux. Traduit en pourcentages de la population desservie par ses services, ceci représente 33.4 p.c. de la population canadienne et 46.2 p.c. du total des citoyens dont l'eau provient des aqueducs.

Le Yukon vient en tête de toutes les provinces et territoires puisque 100 p.c. de la population utilisant l'eau des réservoirs reçoit de l'eau fluorée. Vient ensuite les Territoires du Nord-Ouest avec 94.9 p.c., le Manitoba avec 88.2 p.c. et l'Ontario avec 76.9 p.c.

Ces statistiques ont été publiées dans le dernier numéro de "La Fluoration au Canada", publié par le Bureau de renseignements au public de l'ADC. On peut obtenir un exemplaire, en s'adressant au Bureau de renseignements au public, Association Dentaire Canadienne, 234 rue St. George, Toronto 180, Ont.

Le ministre de la Santé de l'Ontario appuie la fluoration

Le ministre de la Santé de l'Ontario, M. T.L. Wells, a accordé son appui à la fluoration de l'eau de consommation.

Dans une communication commémorant le 25e anniversaire de l'introduction de la fluoration, M. Wells a loué les résidents de Brantford qui ont été les pionniers de cette importante mesure préventive. La ville de Brantford a été la première au Commonwealth à fluorer ses services d'eau.

La fluoration freine la carie à Toronto

Le nombre d'enfants torontois âgés de cinq ans qui n'ont pas eu besoin de soins dentaires a augmenté de 37 p.c. durant les cinq années qui ont suivi l'introduction de la fluoration en 1963. Telle est la conclusion d'une série de rapports reçus par le Comité Exécutif du Toronto Métropolitain le 23 juin dernier.

Tous les rapports indiquent une amélioration de la santé dentaire depuis l'introduction de la fluoration.

D'après le rapport torontois, le nombre d'enfants âgés de cinq ans qui ont perdu des dents à cause de la carie a diminué de 50 p.c.

Les enfants nés avant les débuts de la fluoration ont également bénéficié de cette mesure. Dans ce groupe le nombre d'enfants âgés de neuf ans qui n'ont jamais souffert de la carie a augmenté de 50 p.c.

"Il n'y a aucun doute que l'addition d'une quantité minimale de fluor à l'eau de consommation a grandement amélioré la santé dentaire des enfants", selon un autre rapport de North York.

"Cette réalisation devient encore plus considérable lorsque l'on considère que cette réduction de la carie dentaire a été obtenue malgré l'augmentation continue de la consommation per capita de sucre".

Selon l'étude de la ville d'Etobicoke il n'y a pas eu d'effets secondaires, tels que l'email tacheté, dans cette communauté.

La situation du praticien en France

Jean-Claude Franquin. *Revue mensuelle suisse d'Odontostomatologie* 79:257, 1969

Les quelques 20,000 praticiens français se trouvent actuellement en pleine période de mutation. Les nouvelles Ecoles nationales de chirurgie dentaire et le Doctorat en chirurgie dentaire remplaceront éventuellement les 14 écoles dentaires universitaires et privées qui sont de qualités inégales. Cette standardisation relèvera sensiblement le niveau de l'enseignement. L'ouverture prochaine des frontières du Marché Commun nécessite également une unité de doctrine.

La profession est gérée par un Conseil national de l'Ordre qui la représente auprès des pouvoirs publics. Les praticiens peuvent également s'affilier librement aux syndicats régionaux qui forment la Confédération nationale des syndicats dentaires et qui défendent les intérêts économiques de la profession.

La Sécurité sociale est une assurance nationale obligatoire qui tire ses ressources des cotisations de presque tous les citoyens. Tous les départements français, sauf la Seine (Paris) sont conventionnés. L'adhésion à une convention impose au signataire un respect absolu des tarifs officiels pour un certain nombre d'actes thérapeutiques précis, codifiés dans une nomenclature. Voici à titre d'exemple quelques tarifs concernant les soins courants:

Obturations coronaires: une face Fr. 20.50 (\$4.50); plusieurs faces Fr. 28.70 (\$6.30).

Obturations radicaires (quel que soit le nombre de séances et la technique): canines, incisives et prémolaires inférieures Fr. 32.— (7.15); prémolaires supérieures Fr. 48.— (\$10.55); molaires Fr. 60.— (\$13.20).

Extractions: de Fr. 16.— (\$3.50) à Fr. 60.— (\$13.20) suivant le cas.

Prothèses: il est nécessaire de faire une demande d'autorisation d'effectuer

des couronnes unitaires ou des prothèses mobiles. La Sécurité sociale ne paye pas pour les ponts ou les prothèses de conception plus élaborée. Couronne Fr. 100.— (\$22.00); prothèses Fr. 120.— (\$26.40) à Fr. 340.— (\$74.80) suivant le cas.

Toutefois, le praticien reste libre d'effectuer d'autres travaux hors nomenclature aux honoraires qu'il désire, après accord de son patient.

L'introduction de la Sécurité sociale a eu des aspects positifs:

—accès aux soins dentaires de toute une partie importante de la population aux revenus modestes,

—standardisation et stabilisation des honoraires,

—quasi certitude d'être payé, au moins pour les sommes remboursées par l'Etat.

La Sécurité sociale présente aussi des défauts:

—immobilisme des conceptions de travail (couronne à anneau en acier),

—paperasserie,

—risques de nationalisation parce que l'avenir des chirurgiens-dentistes est maintenant lié à l'évolution politique du pays.

Le Fonds de la Bibliothèque de l'ADC — La bibliothèque de l'Association Dentaire Canadienne rend service aux membres de l'Association en leur prêtant des volumes et des périodiques. L'acquisition de ces volumes et périodiques s'accomplit au moyen d'un fonds mis à la disposition de la bibliothèque. On accepte avec reconnaissance toute souscription venant des membres de l'Association. Toute somme souscrite peut être déduite de l'impôt sur le revenu.

The effect of premedication on handicapped children

R. G. Kroll. *J Dent Child* 26:103, 1969

Fifteen handicapped children were subjected to 75 appointments for restorative treatment utilizing five drugs, alone and in combination, for premedication. The drugs included pentobarbital alone; pentobarbital and promethazine; pentobarbital, meperidine and promethazine; meperidine and meprobamate; and calcium carbonate as a placebo.

The drugs and drug combinations used had a striking though inconsistent effect on individual patients. Premedication per se generally improved the degree of apprehension and cooperation that the patient exhibited during treatment. None of the selected agents, however, showed a distinct superiority over the others.

Caries-inhibiting effect of fluoride tablets

T. M. Marthaler. *Helv Odont Acta* 13:1, 1969

Double-blind examinations for caries were carried out in school children of four communities, two of which had followed a scheme of fluoride tablet distribution in school for eight years or longer. Fluoride tablets (0.5-1.0 mg F) distributed in school approximately 200 times a year were highly effective in inhibiting the development of dental decay. Mean percentage reductions were 36 per cent for teeth and 47 per cent for sites. Marked caries inhibition was found in free smooth surfaces of molars, in incisors and in fissures of bicuspid. A protective effect due to pre-eruptive fluoridation was not evident in a detailed comparison of first and second molars. Since caries inhibition is primarily due to local fluoride accumulations in enamel surface layers and dental plaque, the author recommends that fluoride tablets should be kept in the mouth as long as possible.

Inferior alveolar nerve regeneration with Millipore filter sleeves

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In this experiment, Millipore sleeves made of monomolecular cellulose acetate provided a suitable alloplast for bridging 1.5 cm gaps in the inferior alveolar nerve of dogs. The sleeves facilitated regeneration of the severed nerve tissue by preventing displacement of the nerve ends and the interposition of other tissue.

Dans l'expérience décrite, il a été révélé que des fourreaux "Millipore" en acétate de cellulose monocellulaire peuvent former un alloplaste convenable pour combler des intervalles de 1.5 cm du nerf dentaire inférieur canin. Les fourreaux ont facilité la régénération du tissu nerveux sectionné en empêchant le déplacement des extrémités du nerf et l'interposition d'autres tissus.

Injury to the inferior alveolar nerve as a result of impacted third molar removal may be more common than reports in the literature reveal. It is a frequent complication of mandibular fractures, extensive injuries such as gunshot wounds, and operative procedures for enucleation of large cysts and sequestra in the mandible.^{1, 2}

Anaesthesia or paraesthesia may persist indefinitely following such injury.³ Total loss of sensation may reflect severance of the nerve; the cut ends may be displaced or the interposed reparative fibrous and os-

seous tissue may preclude union of the severed stumps. Alternatively, the nerve may be so severely crushed by surrounding tissue that regeneration is impossible. Persistent paraesthesia may signify imperfect regeneration due to impingement on the nerve at the site of injury.

Anaesthesia and paraesthesia are distressing to the patient. Paraesthesia may take the form of hypersensitivity to thermal or tactile stimuli, a feeling of distension, a sensation of pins and needles, burning, aching or, occasionally, actual pain. The interruption of the neural arc associated with proprioception may eventually lead to damage to the teeth and gingiva.⁴ The loss of sensory input from the soft tissues innervated by the inferior alveolar nerve may lead to inadvertent biting and laceration of these structures. Salivation and drooling from the commissure while eating is particularly distressing to the patient with nerve damage.

In peripheral nerve surgery many materials have been used to bridge the gap between proximal and distal nerve stumps. Segments of artery and nerve grafts were used by Weiss and later abandoned in favour of tantalum foil.⁵⁻⁷ Tantalum has been proposed for the repair of inferior alveolar nerve injuries^{8, 9} but there are no published data regarding its use. Most recently, Merrill¹⁰ successfully utilized micropore tape (Steri-Strip) to bridge a 1.5 cm gap of the canine inferior alveolar nerve. Campbell^{11, 12} employed tubes of reinforced Millipore filter to bridge gaps in feline sciatic nerve. The same material has been used clinically with success.¹³

Millipore blocks the disorganized penetration of cells. Some fibrous tissue does penetrate but this occurs in a longitudinal direction (Fig 1). The authors therefore undertook the present investigation to determine the value of a Millipore filter sleeve in facilitating regeneration of the severed inferior alveolar nerve. It was thought that this alloplastic sheath would help to prevent displacement of the nerve ends and the interposition of connective tissue or bone.

Materials and methods

Millipore¹⁴ is a cellulose acetate, monomolecular filter which is relatively inert in tissue. The cellulose

ester matrix occupies only 15-20 per cent of the total filter volume. Nylon reinforced Millipore (Microweb, Catalogue HAWP, Millipore Filter Corporation) was utilized as the alloplast in this study. With a pore size of $0.45\ \mu$, Millipore permits the penetration of molecules but blocks the passage of cells. The Millipore was cut into 2.2×1.2 cm rectangles. These were wrapped around a glass tube 25 mm long and 2.5 mm in diameter. The overlapping ends were glued together with Millipore filter cement. The prepared sheaths were gas sterilized in ethylene oxide (Fig 2).

Ten adult mongrel dogs were used. The operative procedure was carried out bilaterally with one side serving as the control.

Following intravenous pentobarbital anaesthesia, a previously prepared 4×1 cm lead template was placed along the surgically exposed lower border of the mandible with its distal end 1 cm in front of the mandibular angle. The outline of the template was etched into the bone with a Stryker oscillating saw. The resulting cuts were deepened until the medullary cavity was reached. The bone segment was elevated to expose the inferior alveolar canal and the neurovascular bundle. The nerve was separated from the artery and vein by blunt dissection. A 5 mm segment of the vascular bundle was removed between two sutures.

A second lead template, 1.2 cm long, was used to determine the 1.2 cm length of nerve trunk to be sectioned. This length was chosen because a gap three to seven times the diameter of a nerve is not usually well bridged by spontaneous regeneration.¹⁵

Four holes, 3 mm deep, were drilled with a No 8 round bur on the medial aspect of the bony canal in the area of nerve section. These holes were made to simulate complete disruption of the mandibular canal. The Millipore sheath was placed in position (Fig 3). The operative site (Fig 4) was thoroughly irrigated with saline and the wound was closed in layers.

The control side received identical treatment except for actual placement of a Millipore sheath.

The animals were given 1,200,000 units benzathine penicillin G and the incision lines were sprayed with

polymyxin-bacitracin-neomycin (Neosporin) aerosol. The penicillin dosage was repeated twice at 48 hour intervals.

Three physiological tests were used at intervals of two, four, six and eight weeks to assess nerve regeneration. Under light pentobarbital anaesthesia, (a) pressure was applied to the gingiva with a blunt probe, (b) the lip was pinched in the canine area with an Allis clamp, and (c) a Burton vitalometer was used to test sensation in teeth ahead of the site of nerve transection. The tests were applied on each side, the maxillary counterpart of each tissue serving as a control. Positive responses in the lips and gingiva comprised one or more of the following: erection of mystacial vibrissae, contraction of snout muscles, movement of the tongue, and irregular respiratory activity. A positive response to the vitalometer was a jaw jerk; this could be obtained from either maxillary or mandibular teeth.

The animals were sacrificed at the end of the eighth week. The Millipore sleeve and its content were removed from the mandibular canal and fixed in formaldehyde. From this material, and from the nerve segments removed at the initial operation, 6μ paraffin sections were prepared and stained with silver by the method of FitzGerald.¹⁶

Axons were counted as follows: the contour of the contained nerve trunk (where present) was outlined on squared paper at a magnification $\times 240$, each paper square corresponding to a square of a micrometer disc image inserted into the microscope ocular. The image was divided into ninths, a random square was selected from each of the nine divisions, and the number of fibres within it were counted. This number was multiplied by the total number of squares in the corresponding division, to yield a total fibre count.

Results

During the first week the animals displayed confused behaviour due to bilateral loss of sensation.

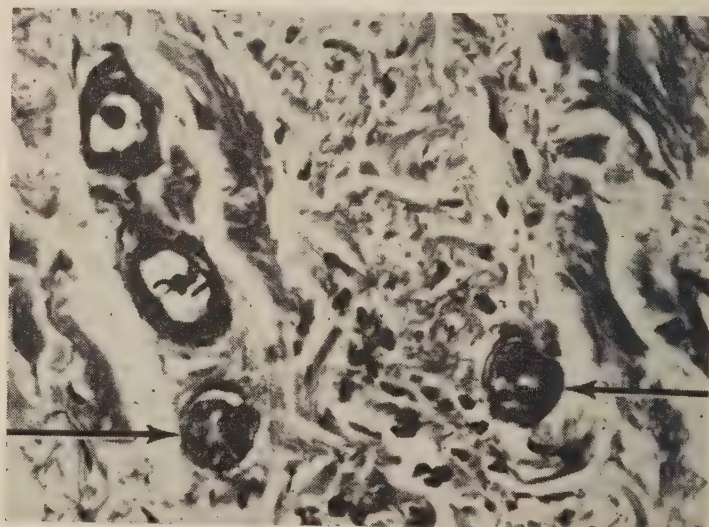
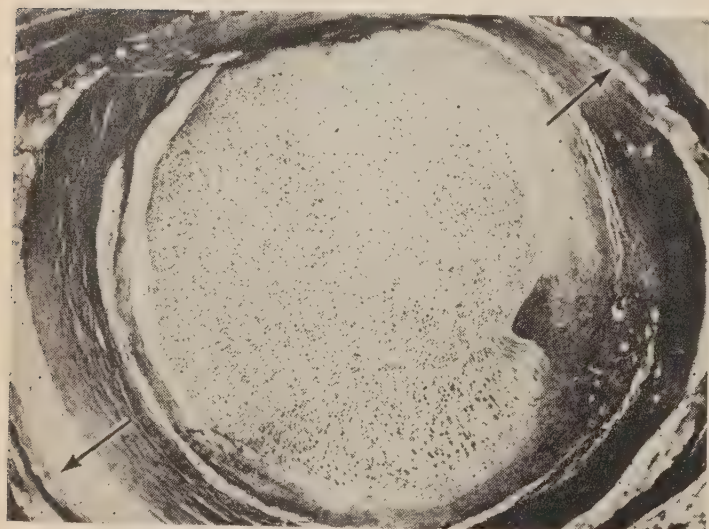


Fig 1 Postoperative photomicrographs of a dog's inferior alveolar nerve. Left: experimental side ($\times 100$). Arrow points to Millipore sheath. Right: control side ($\times 400$). Arrows point to two nerve bundles.

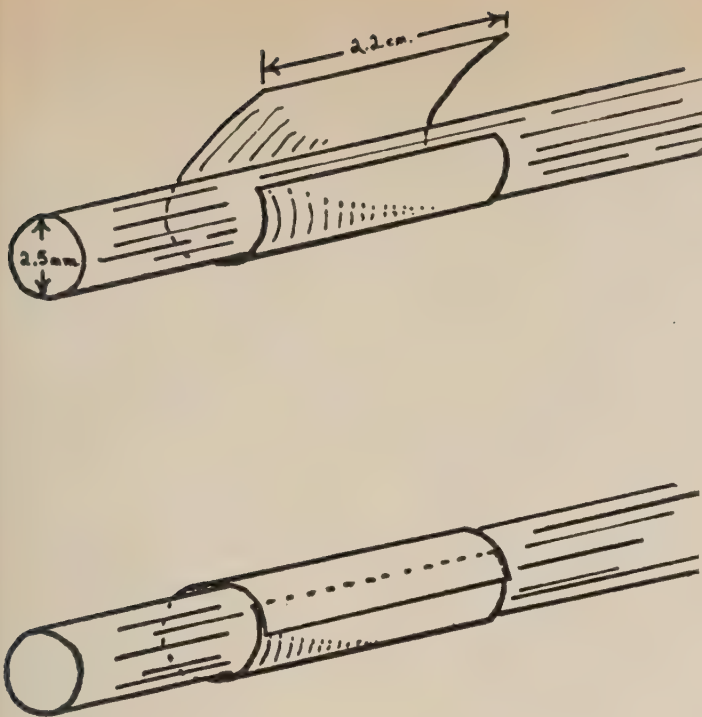


Fig 2 Diagrammatic representation of Millipore sleeve preparation. The Millipore rectangle was wrapped around a glass tube and the overlapping ends were glued together with Millipore filter cement.

Their ability to drink, masticate and control their saliva was impaired. Adaptation occurred during the second week. One dog was rejected because of wound infection. The results of the sensory tests are shown in Tables 1-3.

For statistical analysis, only positive responses that differed in their dates of occurrence can be compared (Table 2). With gingival pressure as the test stimulus, seven Millipore sides responded sooner than the corresponding control side ($P < 0.01$). With a lip pinch, seven Millipore sides responded sooner than the corresponding control side. However, one control side responded sooner than the Millipore side ($P < 0.08$).

In determining regeneration on the basis of gingival pressure, the probability that five Millipore sides and no control sides responded by chance was not significant ($P < 0.06$). In the lip pinch test, the probability that five Millipore sides and one control side responded positively by chance is $P < 0.18$ (Table 3). Probability values were determined directly from the data.

The authors were unable to bring all dogs to the same level of anaesthesia at each testing session. Moreover, some animals exhibited random movements under light anaesthesia, so that a cause and effect relationship between stimulus and response could not always be inferred.

Axon counts of the right and left nerve segments, removed at the initial operation, were similar. The two counts were therefore averaged as an "operative" value ranging from 9,250 to 14,825 axons. Postoperative counts were expressed as a percentage of their "operative" value. In all cases total postoperative axon counts on the control side were under 500 axons, reflecting less than 5 per cent regrowth of nerve fibres. On the experimental side, seven of the nine specimens attained 30 per cent or greater regeneration (Table 4).

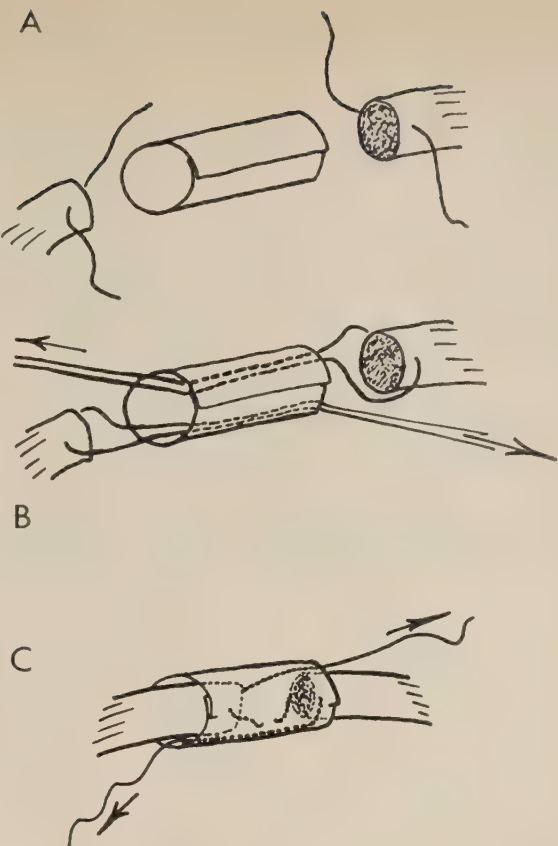


Fig 3 Method of Millipore sleeve placement. A, sutures placed through nerve ends. B, sutures threaded through Millipore sleeve. C, sutures have pulled nerve ends into the Millipore sleeve and are withdrawn so as to leave no foreign material in the alloplast.

Discussion

Our experiences indicate that sensory tests, particularly tooth stimulation, are unreliable. They yield false positive and false negative results, depending upon the level of anaesthesia at the time of testing. False positive responses may arise from collateral regeneration, the process whereby regional nerves may grow into adjacent denervated areas.¹⁷ Thus, labial and gingival responses could have resulted from extension

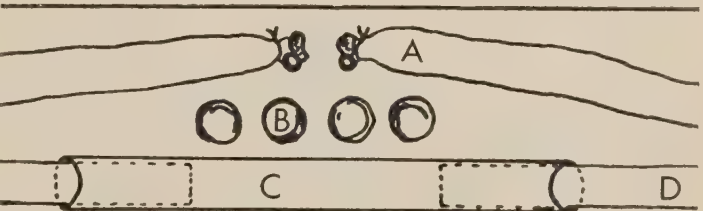


Fig 4 Diagrammatic representation of the operative site. A, vascular bundle. B, bur holes. C, Millipore sleeve. D, inferior alveolar nerve.

Dog No	Time of test in weeks	Tooth stimulation								Gingival pressure		Lip pinch	
		M				C				M	C	M	C
1	2	*	*	*									
	4	*	*	*	*								
	6	*	*	*	*	*				*		*	
	8	*	*	*	*	*	*	*	*	*		*	
2	2	*	*	*									
	4	*	*	*									
	6												
	8												
3	2	*	*	*									
	4	*	*	*	*								
	6	*	*	*	*					*		*	
	8	*	*	*	*					*		*	
4	2	*	*										
	4	*	*	*									
	6	*	*	*									
	8	*	*	*						*		*	
5	2	*	*	*									
	4	*	*	*	*								
	6	*	*	*	*	*				*			
	8	*	*	*	*	*				*		*	
6	2	*	*										
	4	*	*										
	6	*	*					*	*	*			
	8	*	*					*	*	*		*	*
7	2	*	*										
	4	*	*										
	6	*	*	*						*		*	
	8	*	*	*	*	*	*	*	*	*	*	*	*
8	2	*	*										
	4	*	*										
	6	*	*										*
	8	*	*					*	*	*	*	*	*
9	2	*	*										
	4	*	*										
	6	*	*							*		*	
	8	*	*	*				*	*	*	*	*	*
10	2	*	*										
	4	*	*										
	6	*	*										
	8	*	*							*		*	*

M — Millipore side

C — Control side

Results from No 2 dog were rejected because of wound infection

of functional branches of the long buccal nerve into the territory of the mental branch of the inferior alveolar nerve.

Aside from these comments, the clinical tests indicate that Millipore may aid regeneration. The results are not statistically significant, however, and more convincing results might have been obtained had we allowed more time for regeneration.

For the method of nerve fibre counting the authors computed a coefficient of variation of 18 per cent. One standard deviation (68 per cent) of all observations fell within 18 per cent of the mean value. This is an acceptable value of variation for such observations.¹⁸

The axon counts show an obvious difference between the control and experimental sides. This difference is attributable to the efficacy of the Millipore

Rate of nerve regeneration

Table 2

Determinants	Gingival pressure	Lip pinch
Millipore and control sides positive on the same date	1	1
Millipore sides positive at an earlier date	7	7
Control sides positive at an earlier date	0	1
Millipore and control sides negative at eight weeks	1	0
Total number of sides	9	9

sleeve. The Millipore may be regarded as imparting "contact guidance" to nerve sprouts migrating from the proximal stumps, while shielding them from competition with mesenchymal cells arising from the operative bed. At the same time it allows diffusion of extracellular fluids to provide a suitable medium for regenerative activity.

Summary

Millipore has been tested as an adjuvant to regeneration of the inferior alveolar nerve in dogs. The nerve was exposed bilaterally in the mandibular canal and a 1.2 cm segment was removed. On one side the cut ends were enclosed in a Millipore sleeve. Nine successful operations were performed. Thereafter sensory recovery was tested for eight weeks. The animals were then sacrificed. Nerve fibre counts were done on the segments removed at operation and on the post mortem specimens taken from each operative site.

Sensory testing proved unreliable due to difficulty in obtaining similar conditions at all test periods and also on account of possible re-innervation of denervated areas by collaterals from the long buccal nerve.

Seven of the experimental sides exhibited 30 per cent or greater axon regeneration as compared to pre-operative values. Axon regrowth in all control sides was less than 5 per cent of the pre-operative values.

Millipore appears to be a suitable alloplast for bridging 1.5 cm gaps in inferior alveolar nerve tissue. Longer studies with similar and larger gaps and with avulsion of the long buccal nerve are desirable.

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Effective regeneration after eight weeks

Table 3

Determinants	Gingival pressure	Lip pinch
Millipore and control sides positive at eight weeks	3	3
Millipore sides positive at eight weeks	5	5
Control sides positive at eight weeks	0	1
Millipore and control sides negative at eight weeks	1	0
Total number of sides	9	9

Axon counts

Table 4

Dog No	Operative specimen	Postoperative specimen			
		Millipore		Control	
	Average of two sides	Count	% Regrowth	Count	% Regrowth
1	13,750	4,125	30	0	
2	14,000				
3	14,150	13,000	88	SGF	
4	9,250	3,150	34	SGF	
5	14,825	12,379	83	SGF	
6	11,100	750	7	SGF	All less than 5%
7	12,650	4,250	37	SGF	
8	10,000	4,750	47	SGF	
9	12,500	10,200	81	0	
10	11,250	1,400	12	SGF	

SGF - Scattered groups of fibres

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Accurate thiokol impressions for crown and bridge prosthodontics

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J. Strode, RDT, Vancouver

Air bubbles trapped within but close to the surface of rubber base impression material can distort the fit of subsequent crowns. This hazard is diminished by careful spatulation to avoid trapping any air and use of a vented tray to avoid compressing any bubbles. If the crown still does not fit, careful examination of the die and removal of additional tooth structure in the affected area may salvage the restoration.

Des bulles d'air enfermées dans le matériau pour empreintes peuvent entraîner une mauvaise adaptation des couronnes produites. On diminue ce risque en travaillant soigneusement le matériau à la spatule pour éviter d'enfermer de l'air et en utilisant un porte-empreinte troué pour éviter de comprimer des bulles. Si la couronne n'est toujours pas bien adaptée, on peut parvenir à récupérer la restauration en examinant le modèle pour ensuite corriger la dent dans la zone en question.

The entrapment of surface air bubbles is a well known hazard with thiokol (rubber base) impressions. Less evident, but equally serious, is another kind of defect characterized by a rounded depression in the surface of the die and a corresponding low module on the interior surface of the casting. This defect is caused by air trapped within but near the surface of the impression material. Expansion of this air causes nodules on the impression and corresponding hollows in the die. As a consequence, crowns fabricated on silver-plated or stone dies may fit the dies but not the teeth. A recent examination of 250 thiokol impressions and dies confirms the frequency of this phenomenon.

Material and method

The impressions were selected at random, the dentists being unaware of the purpose of the experi-

ment. All impressions and dies were sectioned vertically and inspected under magnification.

Results

A startling finding was that none of the impressions were entirely free of bubbles, though the percentage that caused demonstrable inaccuracy was relatively small — about 6 per cent.

Inspection under magnification revealed rounded depressions in the surfaces of the dies. These would be a source of corresponding protuberances on the interior surfaces of crowns.

Thiokol impressions sectioned in the corresponding area had a bubble close to the surface, which had obviously expanded, displacing a thin wall of impression material inward against the die (Fig 1, 2). Air bubbles in most of the impressions were elongated in the direction of the flow lines of the material (Fig 3). This suggests that the bubbles were under stress in this direction.

Almost 10 per cent of the impressions revealed so many large air bubbles that they would have been rejected had this been known before dies were made.

The double impression technique described by Rosen¹ gave the fewest air bubbles.

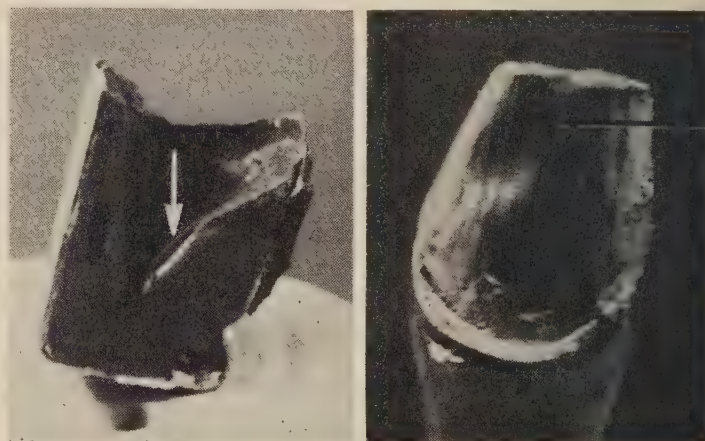


Fig 1 Left: sectioned impression has an air bubble near the inner surface. Right: defect in the corresponding die.



Fig 2 Expansion of air in the bubble in the sectioned impression at the left caused the defect in the die on the right.

Recommendations

Careful spatulation diminishes the risk of trapping air, especially within but near the surface of the impression. Equally useful is a vented tray which permits free escape of material. Otherwise the impression sets under pressure, compressing any trapped air which expands as soon as the pressure is released and further distorts the surface of the impression.

If the finished crown still does not fit, the die

Community Water Fluoridation and Total Fluoride Intake—In determining the fluoride level for drinking water which will have optimal dental health benefits but no adverse effects, the intake of fluoride from dietary sources has been taken into account. Studies have shown that the average diets of children and adults provide 1/5—1/2 mg fluoride per day. Further information on adult dietary fluoride intake is being obtained in a current Public Health Service-supported study. Atmospheric fluoride has been found to contribute relatively little to human intake (maximum: 0.046 mg/day). The available fluoride from pharmaceuticals, other than from those formulated as fluoride supplements for specific and known therapeutic use, is negligible.

Because fluorides occur so commonly as natural constituents of water supplies, research scientists have had a great natural laboratory in which to work for several decades. Studies of large numbers of long-time residents have been made in areas of the United



Fig 3 This sectioned impression illustrates the flow line of the impression material.

should be carefully examined for any surface imperfections. Such minor defects can often be remedied by further judicious reduction of corresponding areas of the tooth.

Doctor Ferguson's address is: 624 Sixth St, New Westminster, BC.

1 Rosen, Harry. A modified rubber base impression technique. *J Canad Dent Ass* 29:703, 1963.

States having naturally fluoridated water with up to 8 ppm or more fluoride. In these areas, the water was used for drinking, cooking, and food processing. These studies include 10 year medical investigations of large groups of individuals, radiographic surveys for bone changes, postmortem examinations and chemical analyses of tissues, and metabolic assessments. Extensive research also has been done using laboratory animals. Health statistics in high-fluoride and low-fluoride areas have been compared. The findings from these studies have provided consistent evidence that, in addition to all food and ambient sources of fluoride, humans may daily ingest water having up to at least eight times the amount of fluoride provided by optimally fluoridated water without adverse effect other than mottling of tooth enamel. Mottling, however, does not result from the use of optimally fluoridated water.—Excerpt from testimony by Viron L. Diefenbach, DDS, former Assistant Surgeon General, at hearings of the US House of Representatives, 1970.

Osteomyelitis of odontogenic origin: Report of case and review

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Osteomyelitis, a hazard of odontogenic infection, requires constant vigilance on the part of the dentist. The disease is usually preceded by a history of recent pericoronitis, pulp infection, periodontitis, trauma or furunculosis. Its acute phase is readily identifiable but the manifestations of chronic osteomyelitis are far more insidious. In the following article the authors describe a case where halitosis was the only overt symptom, and they review the management of acute and chronic osteomyelitis.

L'ostéomyélite, qui risque de faire suite à une infection d'origine dentaire, exige une vigilance constante de la part du dentiste. La maladie a d'ordinaire pour antécédents une péri coronarite récente, une infection pulpaire, une périodontite, un traumatisme ou une furonculose. La phase aiguë est aisément identifiable, mais les manifestations chroniques sont beaucoup plus insidieuses. Dans l'article qui suit, les auteurs décrivent un cas où la fétidité de l'haleine était le seul symptôme patent et ils examinent le traitement de l'ostéomyélite aiguë et chronique.

Acute and chronic suppurative osteomyelitis of the jaws is the commonest local sequel of odontogenic infection. Infection results from invasion of bone marrow by pyogenic bacteria which spread diffusely through the medullary spaces.¹ This paper describes a case of osteomyelitis and reviews the aetiology, clinical features and management of acute and chronic forms of suppurative osteomyelitis.

Report of case

The patient, a healthy 33 year old white male, came to the University of Iowa Hospital Dental College on May 12, 1967 for a routine check-up. His past medical history was essentially negative. On clinical examination we discovered a slight throat inflammation and inflamed gingiva. Radiographs (Fig 1) disclosed an impacted right mandibular third molar. We decided to extract this tooth.

On May 26 we sectioned the tooth and removed

the roots in pieces. The crown appeared to be demineralized and broke into small fragments. Absorbable gelatin (Gelfoam) was used to control haemorrhage and the wound was closed with silk sutures. The latter were removed one week later. We then irrigated the operative site and placed a dressing.

On the following day the patient suffered acute pain. The swelling was increased and tender to palpation. His temperature was 100.1°F. A purulent exudate was observed upon removal of the dressing. We irrigated the area and placed a new dressing. The patient also received meperidine (Demerol) 25 mg IM and oral phenoxymethyl penicillin (Compocillin-VK) 250 mg four times daily and continued warm saline rinses.

One month later the patient was afebrile. A good clot had formed and there was no further swelling.

He returned on July 14 on account of persistent post-surgical halitosis. All oral structures appeared normal and the extraction site was healing well. Radiographic examination (Fig 2) disclosed a radiolucent area at the apex of the right mandibular second molar. It extended from the distal root to the inferior border of the mandible but appeared to be confined to a small area. The extraction site was healing well. No other areas of pathosis were observed. Blood findings were normal. The diagnosis was osteomyelitis of the mandible.

We decided to place Gilman wires for internal fixation to prevent a pathological fracture. The patient also received further penicillin and multiple vitamin supplements (Abdol with vitamin C).

A panoramic radiograph (Fig 3) taken four days later revealed an extension of osteolytic process. Although there were no symptoms at this time, surgical exploration of the site was deemed necessary because of radiographic evidence. The antibiotic medication was changed to oral lincomycin 500 mg every six hours. Sequestrectomy was performed under local anaesthesia. Using a 2 cm incision made from an extra-oral submandibular approach, we removed three small bone fragments. No purulent exudate was noted. We packed an iodoform gauze dressing into the wound, suturing it to the skin. Adaptic was placed over the wound, followed by 2 x 2 inch gauze and an elastic bandage. A Barton bandage was added for support.

One month later, after several intervening dressing changes and irrigations with triple antibiotic solution, a panoramic radiograph revealed new bone formation.

Sutures and fixation wires were removed and the medication discontinued.

Radiographs (Fig 4) taken 18 months later disclosed good bony regeneration.

Acute suppurative osteomyelitis

Aetiology—Osteomyelitis is most frequently due to bacteraemia caused by *Staphylococcus epidermidis* followed in order by *Staphylococcus albus*, streptococci and pneumococci.²⁻⁴ The commonest odontogenic sources of osteomyelitis are (1) periapical disease introduced by pulp pathology, (2) periodontal disease emanating from bacteria that enter the gingival crevice, (3) pericoronal infection caused by inflammation of gingival tissue pierced by a partially erupted tooth with a long-standing operculum, and (4) infection of an odontogenic cyst or tumour.^{1, 3, 4}

These infections are generally walled off and do not spread into the bone.¹ Factors that disrupt the protective pyogenic membrane include injudicious curettement of suppurative lesions, operative trauma by which highly pyogenic organisms are introduced into normal tissue, injection into an area of acute infection, and the application of heat to a dental abscess enclosed in bone and deprived of drainage. Although tooth extraction may be the exciting factor, osteomyelitis can also develop from dental infections if the tooth is not removed. The disease may remain localized or may involve considerable bone.¹

Subperiosteal abscesses arising from odontogenic infection, furunculosis of the chin, compound fractures of the jaws, and peritonsillar abscesses have been known to cause osteomyelitis.^{1, 3}

Local traumatic injuries of the gingiva, usually of no great consequence, may pose a threat in patients with systemic diseases. Typhoid fever, leukaemia, diabetes, agranulocytosis, general debility, as well as acute illnesses like influenza, measles, scarlet fever, whooping cough and pneumonia predispose to osteomyelitis.^{1, 3}

Haematogenous infection may cause multiple osteomyelitis. In most instances the organisms enter the blood from a minor wound in the skin, upper respiratory tract or infection of the middle ear.^{1, 3}

Osteomyelitis is about six times more frequent in the mandible than in the maxilla, the lower jaw being the eighth most frequent bone in the body to be affected by the disease.^{2, 3} This is explained by anatomical differences between the two jawbones, the maxilla having very thin cortical plates which are relatively easily perforated, whereas the mandible is characterized by a thick cortex which is apt to confine the purulent material. Moreover, the rich collateral circulation in the maxilla precludes extensive bone necrosis which otherwise ensues from inflammatory thrombosis of blood vessels.³

Clinical features—The onset of acute osteomyelitis is heralded by fever and chills, tachycardia and increased respiratory rate, nausea and vomiting in children, and lymphadenopathy. The patient may suffer from sleeplessness and delirium.^{1, 4-6} The teeth in the affected area are frequently loose and sore, and numbness of the lower lip is often encountered.³ Until the perioste-



Fig 1 Pre-operative radiograph (May 12, 1967) reveals distoangular impaction of right mandibular third molar.

um is involved, there is no redness or swelling of the overlying mucosa or skin.⁷ Muscle spasm around the involved bone is a common early sign of osteomyelitis.⁵ Dehydration and acidosis may accompany the toxemia, and albuminuria is a frequent finding.¹

The erythrocyte sedimentation rate is usually increased. The white cell count may show an appreciable leucocytosis; 12,000-20,000 white blood cells are seen during the first couple of days of the disease with a gradual reduction after the third day and a return to normal once drainage is established and the clinical picture improves.^{1, 7} The differential count

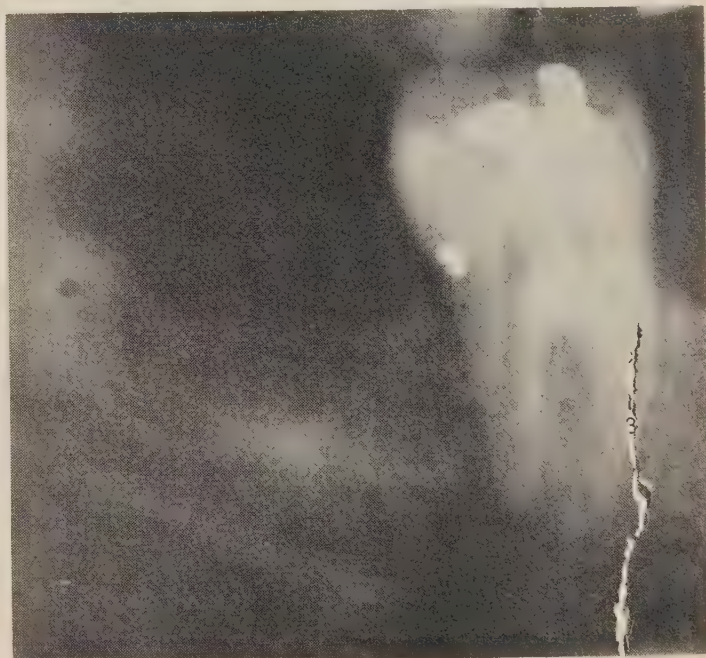


Fig 2 Postoperative radiograph (July 14, 1967) shows radiolucent area at apex of second molar.

shows a decided shift to the left. Toxaemia is expressed by the immature polymorphonuclear neutrophils which diminish as the toxaemia decreases.¹ A daily white count thus gives a good indication of the progress made in treating the disease.

Though acute osteomyelitis must be differentiated from other bacterial infections, especially acute rheumatic fever, the diagnosis is usually not difficult. A history of recent infection from pericoronitis, pulp disease, periodontitis, trauma or furunculosis, supplemented by monoarticular involvement, leucocytosis, response to penicillin and occasional demonstrable staphylococcaemia confirm the presence of acute osteomyelitis.⁵

Radiographic features—Because the disease primarily affects the bone marrow, radiographs appear normal for at least one or two weeks.³ The first radiographic change is a blurring or mottling of the bone resulting from destruction of the trabeculae.³ The bone assumes a "moth-eaten" appearance as the disease progresses and sequestra form.³

Microscopic features—The medullary spaces fill with an inflammatory exudate which progresses to the formation of pus. The inflammatory cells, chiefly neutrophilic polymorphonuclear leucocytes, include occasional lymphocytes and plasma cells.^{3, 7} Osteoblasts bordering the bony trabeculae are generally destroyed and, depending upon the duration of the process, the trabeculae may lose their viability and undergo slow resorption.⁷ Necrotic bone is removed by osteoclasts as long as it remains in contact with viable connective tissue.^{3, 7} When completely surrounded by purulent necrotic material, however, it must be exfoliated or surgically removed.⁷

Treatment and prognosis—Treatment depends on accurate diagnosis. Prompt antibiotic therapy should be instituted as soon as the condition is discovered or even suspected. This often halts the process before any radiographic evidence develops.

Four out of 10 cases of haematogenous osteomyelitis are due to penicillin-resistant staphylococci.⁸ Bacterial culture and sensitivity tests are therefore desirable.⁹ However, one cannot wait for the results of such tests; consequently, prompt antibiotic therapy must be instituted empirically. Patients who are not allergic to penicillin should be given very high doses immediately.¹⁰ The regimen of choice in adults is 12-20 million units of crystalline penicillin G and 1-12 Gm methicillin (Staphcillin) daily, IV or IM, in divided doses at three hour intervals.^{9, 10} Probenicid (Benemid) may be given in conjunction with methicillin to maintain adequate blood levels.¹⁰ Two or three days later, when the results of culture and sensitivity tests become known, the ineffective antibiotic can be discontinued.

In patients who are sensitive to penicillin, one of the newer bactericidal agents such as lincomycin, cephalothin (Keflin) or cephaloridine (Keflodin) may be used.¹¹ Oral lincomycin, in doses of 500 mg given every six hours, has produced excellent results.^{8, 12, 13}

Patients often require complete bed rest, analgesia and light sedation. A high protein, high caloric liquid diet with adequate vitamins and an adequate fluid intake are essential as the patient often has loose, painful teeth and fever.¹

Repetitive blood studies will delineate the course of the disease. Application of intra-oral and extra-oral heat is advisable. Thoma¹ also recommends a Barton bandage to immobilize the jaw.

Incision should be carried out as soon as possible and in as many areas as necessary to establish ade-



Fig 3 Panoramic radiograph (July 18, 1967) shows radiolucent area extending from apex of the second molar to the inferior border of the mandible.

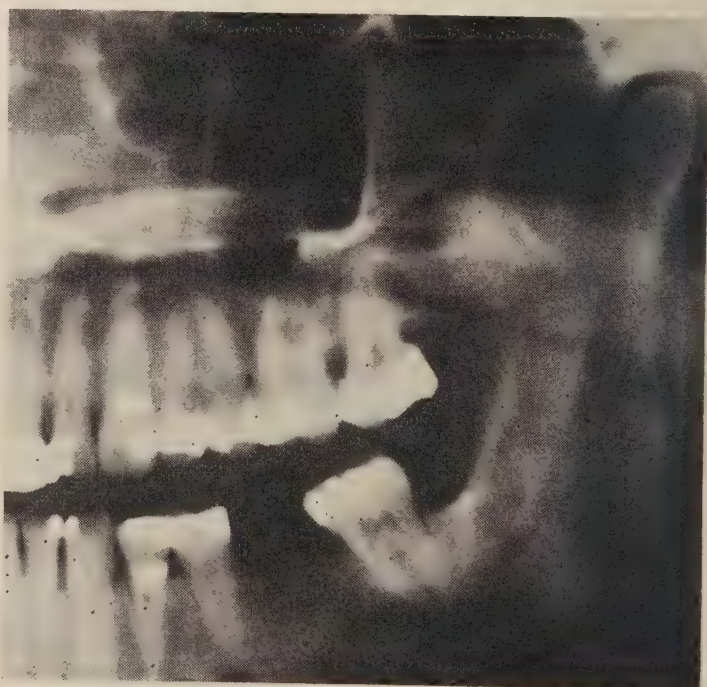


Fig 4 Panoramic radiograph (January 20, 1969) shows complete bony regeneration at two extraction sites. The original radiograph also showed new bone formation at the inferior border of the mandible.

quate extrabony drainage.^{1, 3, 4, 6} Offending teeth should be removed as soon as radiographs disclose radiolucent areas within the bone and provided there is no toxæmia. Curettage is avoided at this time. Tooth buds which are remarkably resistant to infection should not be disturbed in children.^{1, 3}

A Dakin tube or small catheter, to permit saline irrigation, may be placed in the defect and sutured to the skin. Antibiotic irrigations may help if the infection is particularly resistant to therapy. Finally, sequestrectomy may be necessary.^{1, 3, 4, 6, 7}

Chronic suppurative osteomyelitis

Chronic osteomyelitis usually follows after the acute phase of the disease subsides. Occasionally, it may arise from a dental infection without a preceding acute stage.

Clinical features—The disease resembles its acute counterpart except that all signs and symptoms are milder. Pain is less severe, the temperature is slightly elevated, and the white blood cell count is normal or only slightly increased.⁹ Generally, the teeth are no longer loose or sore, so that mastication is at least possible if not comfortable.⁷

Acute exacerbations may recur periodically for many years; they present all the features of acute suppurative osteomyelitis.^{3, 7, 14} Bradley cites acute exacerbations occurring from eight to 40 years after the first onset.¹⁴ Suppuration may cause perforation of the bone and overlying skin or mucosa to form a fistulous tract.⁷

Radiographic features — These resemble the later stages of the acute phase with the additional presence of areas of sclerotic bone.

Microscopic features—There may be some evidence of osteoblastic as well as osteoclastic activity. Chronic rather than acute inflammatory cells predominate. Also present are varying amounts of granulation tissue.¹⁵

Treatment and prognosis—The presence of a sinus tract affords an opportunity for culture and sensitivity tests and proper antibiotic therapy. The latter, however, is less effective than in the acute phase because sclerosis and thrombosis hinder the distribution of antibiotic agents.¹ Antibiotic therapy should continue for at least three months, or longer if signs of infection persist.⁸

Sequestra are usually present and must be removed. Some authors advocate thorough curettage; others let sequestra exfoliate spontaneously or lift them carefully from their bed without performing any curettage.^{1, 4, 6} Sequestrectomy should be done intra-orally wherever possible.¹

Saucerization is often needed for proper cleansing and healing following sequestrectomy.^{1, 6} This consists of removing all overhanging ledges of bone, leaving a wide open orifice into which overlying tissue can be pressed to obliterate any dead space.

Extensive osteomyelitis predisposes to pathological fracture. Intermaxillary fixation or at least a Barton bandage should therefore be applied to immobilize the jaws.¹ In the event of a fracture, Thoma suggests external skeletal pin fixation with the pins in healthy viable bone some distance from the area involved with osteomyelitis.

Conclusion

Osteomyelitis requires prompt treatment based on accurate diagnosis. The symptoms may be quite subtle, as in the case described in this report where halitosis was the only manifestation. Along with a case history, the dentist must utilize all the diagnostic tools at his disposal, including radiographs, blood tests, culture and sensitivity tests, temperature measurements and astute clinical examination. Referral may be necessary in persistent cases.

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Dental caries in Eskimo children of the Keewatin District in the Northwest Territories

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Further evidence of the adoption of a carbohydrate diet and a concurrent deterioration in dental health is reflected in this report about Eskimo children in the northeastern part of the Northwest Territories. The authors call for a program of preventive dentistry to raise the children's oral hygiene standard to a level consistent with the use of such a diet.

Ce rapport sur des enfants esquimaux de la région nord-est des Territoires du Nord-Ouest signale une fois de plus l'adoption d'un régime riche en hydrates de carbone et la détérioration simultanée de la santé dentaire. Les auteurs réclament un programme de dentisterie préventive pour élever l'hygiène buccale des enfants à un niveau convenable pour un tel régime.

Eskimos are often characterized as a people who experience little or no dental decay. This is attributed to the alleged use of a coarse detergent diet low in carbohydrate.

Dental health educational material continues to cite the Eskimos' "good teeth" despite reports of a significant escalation of caries incidence between 1933 and 1961,¹⁻⁸ a phenomenon that has been ascribed to the decreasing isolation of these people and their acceptance of civilization.

In the course of treating Eskimos of the Keewatin, under a scheme sponsored by the Department of National Health and Welfare, the authors observed that the teeth of these people are now in very poor condition. Accordingly, detailed records were kept of all Eskimos treated in seven villages of the district (Fig 1) and the results are presented here.

Methods

All Eskimos attending the dental clinics were given thorough oral examinations prior to treatment. Examinations were performed by one dentist (M.E.J.C.) using a portable light, explorer and dental mouth mirror. All teeth were dried by means of an air-syringe supplied from a portable air turbine and compressor.

Caries was diagnosed by the method of Ludwig.⁹ Results were recorded on a standardized chart by a dental assistant-interpreter who was an Eskimo girl from the district. No radiographs were taken because a portable x-ray machine was not available at the time of the examinations.

Age groups examined were from three to 69 years. Through the cooperation of the school principals preference was given to children aged six to nine years. Accordingly, the number of subjects aged 20 and over was small and their results are omitted.

Results

The numbers of Eskimos in each village and the percentage examined are given in Table 1. Distances from Churchill, Man, and the frequency of air services give an indication of the relative isolation of each village.

Caries indices (DEFT) for the primary dentition of



Fig 1 Map of Keewatin District of the Northwest Territories showing geographical position of Eskimo villages.

Village	Population	Number of Eskimos examined	Percentage of total population	Number of children examined (age 3-19)	Frequency of air service (flights per week)	Distance from Churchill, Man (miles)
Baker Lake	607	74	12	29	3	504
Chesterfield Inlet	214	84	39	31	1	376
Coral Harbour	306	72	23	29	+	574
Eskimo Point	495	125	25	54	1	162
Rankin Inlet	468	132	28	42	3	282
Repulse Bay	192	63	32	21	++	690
Whale Cove	176	66	37	20	1	339
Totals	2,458	616	25	226		

+ one flight every two weeks

++ no scheduled air service

treated Eskimo children are summarized in Table 2. The number of three year old children examined was small and the range of indices large.

Caries activity rose steeply so that by age five over half the primary teeth had been attacked. Maxillary incisors were particularly affected (Fig 2). Even at the age of nine years, with only a maximum of 12 primary teeth present, the average DEFT was 5.0.

Caries indices (DMFT) for the permanent teeth, summarized in Table 3, reflect the early occurrence of occlusal caries in permanent molars. Decay increased steadily so that by age 18 approximately a third of the permanent teeth had been attacked.

The caries rates varied in different villages. Table 4 shows DEFT indices for ages 4-8 years in each of the seven villages. Repulse Bay, the most isolated community (Fig 1), had the lowest prevalence of caries. Food supplies in this village were restricted since it had no regular air service until late in 1969. Absence of a prepared landing strip and poor weather make it difficult to maintain an air service to this village.

Discussion

The high level of caries in the primary dentition often reflects what is termed as "milk bottle caries."¹⁰ As is well known, Eskimo mothers carry their children on their backs in a garment called an "amoutik." In recent years it had become the custom to provide the child with a bottle of milk or water, as a comforter. Fresh milk being unavailable, the mothers use powdered or condensed milk sweetened with sugar. The child, while being carried, is thus constantly sipping

a concentrated sugar solution (Fig 3). This gives rise to very extensive caries in the primary dentition, particularly the maxillary incisors.

Dental decay in the Eskimos we examined is equivalent or higher than that occurring in Caucasians in Canada. Figures 4 and 5 compare DEFT and DMFT indices reported here with those recorded some years ago in Caucasian children in Ontario.¹¹ Caries of the permanent dentitions is similar in both groups but our Eskimo children have about twice as many decayed deciduous teeth as the Ontario children.

Sumner,¹² who examined British Columbia Indian children, found that caries prevalence diminished inversely to the degree of relative isolation. We observed a similar phenomenon in the present survey.

Price,¹ in 1933, contrasted the percentage of carious teeth in isolated Alaskan Eskimos (0.09 per cent) with that of Eskimos who had regular contact with trading posts (13 per cent). Sixteen years later Pedersen⁷ reported 7 per cent and 28 per cent carious teeth in East and West Greenland Eskimos. He ascribed the difference to the degree of contact with trading posts.

Before the advent of European civilization, Eskimo diet consisted essentially of caribou, bear and seal meat and fish. These items were supplemented whenever possible by berries, mosses, lichens and grasses. Visiting whaling ships and fur traders introduced the

Age-specific DEFT indices in the 226 Keewatin Eskimo children examined

Table 2

Age	Number examined	DEFT		
		Average	Median	Range
3	7	7.6	5.0	0-20
4	13	9.1	11.0	0-20
5	30	10.7	12.0	0-20
6	31	10.9	12.0	1-18
7	45	8.5	10.0	0-15
8	44	7.2	7.0	0-17
9	25	5.0	4.0	0-10
10	31	2.5	2.0	0-11

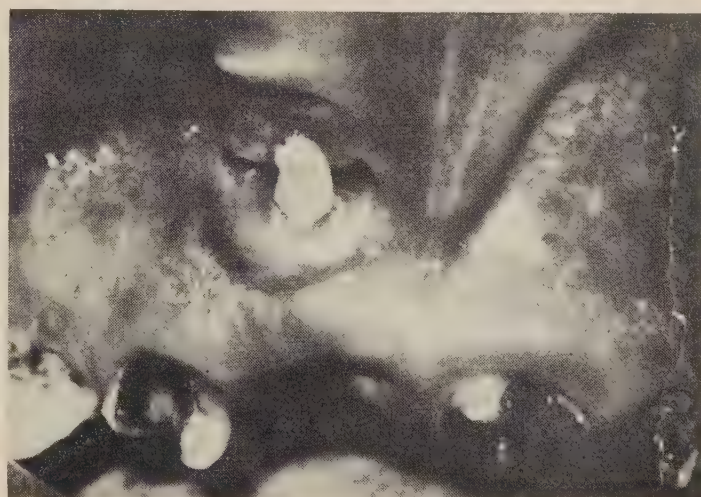


Fig 2 Maxillary incisors of a four year old Eskimo boy showing gross carious destruction.

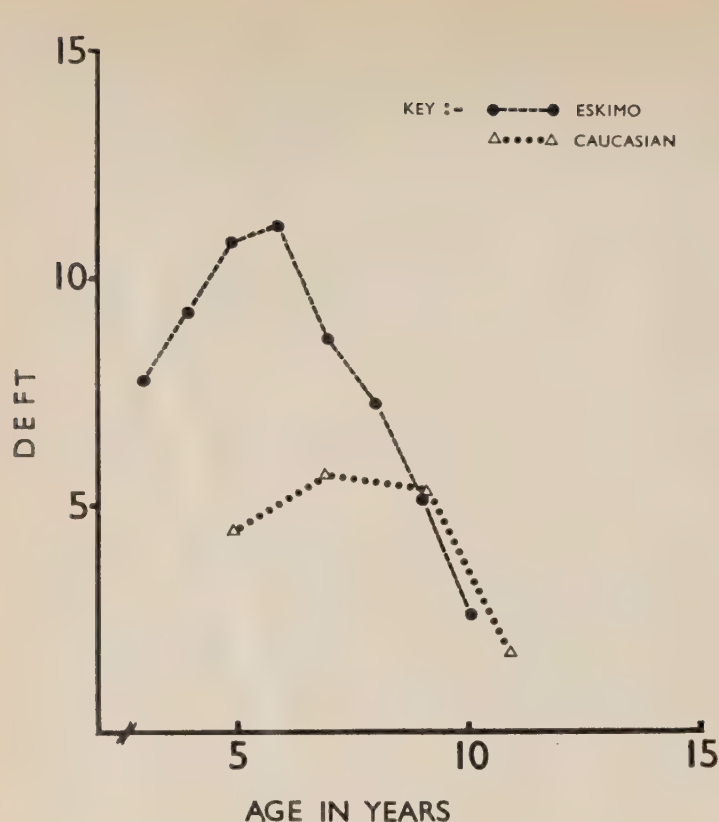


Fig 3 DEFT indices in Eskimo and Ontario Caucasian children.

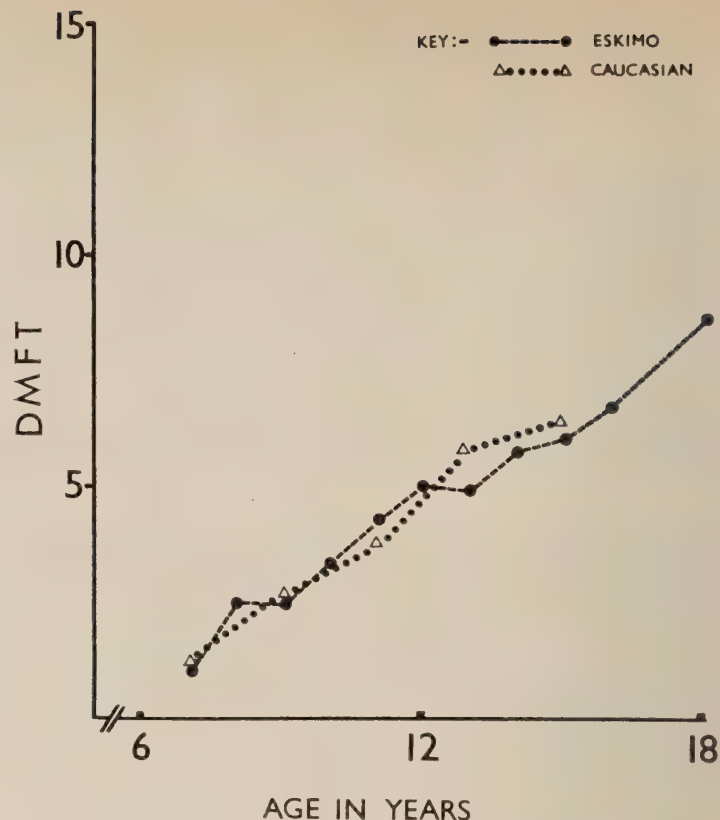


Fig 4 DMFT indices in Eskimo and Ontario Caucasian children.

Eskimos to biscuits and flour, in the form of bannock, which still forms a substantial part of their modern diet.

Thanks to penetration of the northern regions by traders and through exploration for oil and minerals, European foods are displacing the Eskimos' traditional diet. Increased government services, notably education, have accentuated this transformation in recent years.

Pedersen,⁷ quoting data by Rink and Bertlesen, shows how carbohydrate ingestion increased in West Greenland Eskimos: annual per capita sugar consumption spiralled from 3.7 Kg in 1856 to 39.5 Kg in 1933; cereal consumption shot up from 15.3 Kg to 92.2 Kg in the same period.

Eskimos today eat large quantities of flour, used as bannock, as well as sugar in its raw form and as confectionery, cakes and syrup. The latter is obtained from canned fruits which are bought by choice as well as from necessity since fresh fruit is prohibitive and almost unobtainable. The diet also contains substantial amounts of potatoes which are used in preference to other vegetables.¹³

The gradual deterioration of Eskimo teeth has accelerated over the last decade and is now particularly marked in the young. The change from a protein diet to one consisting largely of carbohydrate has resulted in the rapid destruction of what was once a healthy dentition. The acceptance of these foods has not been matched by oral hygiene and preventive measures that have proved essential in more southerly urban popula-



Fig 5 Eskimo child, carried on his mother's back, sips a sugared milk solution.

Age-specific DMFT indices in 226 Keewatin Eskimo children examined

Table 3

Age	Numbers examined	DMFT		
		Average	Median	Range
7	45	1.0	1.0	0-4
8	44	2.6	3.0	0-5
9	25	2.5	3.0	0-5
10	31	3.4	4.0	0-12
11	25	4.4	4.0	1-14
12	25	5.1	5.0	0-13
13	16	5.0	5.0	0-11
14	22	5.9	5.0	0-18
15	16	6.1	4.0	1-13
16	7	6.8	4.0	1-17
17	9	5.9	6.0	1-15
18	5	8.8	9.0	3-14
19	11	12.3	11.0	1-29

Village	4		5		Age 6		7		8	
	DEFT	No exam'd	DEFT	No exam'd	DEFT	No exam'd	DEFT	No exam'd	DEFT	No exam'd
Baker Lake	8.0	3	8.7	4	12.7	6	11.7	3	7.5	4
Chesterfield Inlet	16.0	2	12.8	5	11.9	8	8.7	4	6.7	4
Coral Harbour	14.0	2	14.8	5	10.6	7	7.0	1	9.3	6
Eskimo Point	2.0	2	9.3	10	*		7.3	12	6.3	14
Rankin Inlet	11.5	2	*		10.7	4	9.1	18	6.1	6
Repulse Bay	3.5	2	6.3	3	8.4	5	1.0	1	6.0	5
Whale Cove	*		10.1	3	14.0	1	8.7	6	10.2	5

*no children examined

tions. Canadian Eskimos are in dire need of a program of preventive dentistry to reverse this trend.

Summary

The authors report dental caries levels in a group of Canadian Eskimo children living in the Keewatin District of the Northwest Territories. Decay was very prevalent in the primary dentition. This phenomenon may be related to a change of diet and the use of sugar-milk solutions in very young children. A program of preventive dentistry measures is required to raise oral hygiene standards of the Eskimo up to a level consistent with the use of a carbohydrate diet.

The authors express appreciation to Doctor Gordon Butler, director of the Northern Region, Department of National Health and Welfare, for permission to publish this report; to Doctor Terence Vaz and his staff of the District of Keewatin; also to Miss Odile Siluk and Miss Veronica Curley for their valued assistance and interpretation throughout the program.

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Safety of Fluoridation — The accumulated dental, medical, and public health evidence concerning fluoridation has been reviewed at various times by committees of experts of most of the world's major national health organizations. Their findings and conclusions are public information. In several of the more than 30 countries where fluoridation is practised or planned, commissions reviewed all information relevant to fluoridation and made recommendations according to their findings. Some of these commissions made special efforts to seek out and consider the statements of both professional and lay critics of fluoridation. Such commissions reported to their respective governments in Great Britain in 1952 and 1962; in Canada in 1955 and 1961; in New Zealand in 1957; in Australia in 1954, 1963, and 1968; in Ireland in 1960; in South Africa in 1966; and in Norway in 1968. In July 1969, the

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delegates to the World Health Organization of the United Nations considered the Director General's evaluatory report on water fluoridation. They approved a resolution, co-sponsored by 37 nations, that embodied their findings and recommendations, which, like those of the other commissions, supported and encouraged fluoridation of community water supplies. The impressive body of information available concerning community water fluoridation and fluorides is constantly increasing and continues to support the validity of community water fluoridation as a safe and effective public health measure. There is no evidential basis for questioning the medical safety, effectiveness, and practicality of community water fluoridation as a public health measure for preventing dental caries. — Viron L. Diefenbach, DDS, former US Assistant Surgeon General.

La profession dentaire et la g rontologie

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Les dentistes et les agences d'hygi ne publique sont dans l'obligation de secourir les personnes  g es et les handicap s qui ne peuvent pas obtenir de soins dentaires. Cet engagement devient encore plus important de nos jours parce que l'homme vit plus longtemps. L' quipement dentaire portatif qui permet de soigner les reclus et les handicap s existe d j , mais un programme de recherche sur l' tendue du probl me n'a m me pas encore d but . Le dentiste devra  galement recevoir une formation suppl mentaire qui le pr parera   soigner un patient ailleurs que dans le cabinet dentaire ou en clinique.

Dentists and public health agencies have an obligation to assist aged and handicapped persons who cannot obtain dental treatment for themselves. This commitment becomes more significant as life expectancy increases. Portable dental equipment is available for treating home-bound or incapacitated individuals. But further information is needed to determine the dimensions of the problem. Dentists will also need additional training to prepare them to treat patients elsewhere than in a dental office or clinic.

Depuis plusieurs ann es d j  le probl me de la g rontologie et de la g riatrie au point de vue dentaire (g rodontologie) est   l'ordre du jour aux r unions des membres du Conseil d'hygi ne publique de l'Association Dentaire Canadienne. Plusieurs membres de la profession dentaire, au Conseil et en-dehors, se sont int ress s   cette question, en vue d'y apporter une solution concr te et sugg rer des plans d'action. Parmi ces dentistes, il faut mentionner les docteurs D. W. Lewis, G. T. Mitton, K. F. Pownall et K. W. Davey.

C'est   la suggestion du Conseil d'hygi ne publique que nous avons,   notre tour, entrepris d' tudier ce sujet, notre premier but  tant surtout de soulever l'int r t de la profession dentaire et de la convaincre de l'urgence d'accorder toute l'attention possible aux probl mes dentaires suscit s par le vieillissement de la population.

G n ralit s

Pour mieux comprendre ce vaste th me du vieillissement, il faut tenir compte des principes g n raux suivants:

1. L'individu est indivisible et constitue une unit  d' tude.

2. Les parties qui composent l'homme, entit , sont du domaine de la biologie.

3. L' tude de l'homme comme membre de la soci t  est le champ d'action de la m decine sociale.¹

Pour progresser, la g riatrie doit donc tenir compte: (a) de la biologie du vieillissement; (b) des probl mes sociaux soulev s par le vieillissement.¹

Dans un sens large, la g rontologie est la science qui traite du vieillissement. Le vieillissement est un processus continu qui commence au moment de la conception et se termine   la mort. La g riatrie dentaire ou g rodontologie est une partie de la g rontologie.

G rodontologie

Les dents et les tissus buccaux vieillissent   l' gal de toutes les autres parties de l'organisme. Dans tout

bon traité de gérontologie, il y a toujours un chapitre important consacré à l'étude des maladies de la bouche et des dents en relation avec le vieillissement.

Ajoutons ici aux personnes âgées les malades chroniques, les reclus, les handicapés, leurs problèmes dentaires étant les mêmes et les solutions proposées étant aussi semblables. Tous ces gens constituent ce que l'on a convenu d'appeler les "oubliés" de la médecine et de la dentisterie.¹

Pour toutes fins pratiques, ces personnes ne peuvent recevoir des soins de santé dentaire convenables surtout à cause de cette tradition de la profession dentaire du traitement "seulement entre les quatre murs" de la clinique dentaire. La femme malade âgée, les infirmes, les handicapés, les reclus sont, la plupart du temps, privés de soins dentaires appropriés à cause de cette attitude et sont obligés d'apprendre à vivre avec leurs troubles dentaires et buccaux.

La profession dentaire et les organismes de santé publique ont pourtant l'obligation morale de continuer à prendre soin de toutes ces personnes incapables de se rendre aux cliniques dentaires.²

Tant que le nombre de personnes âgées s'est maintenu à un niveau assez normal, la profession dentaire a pu répondre, plus ou moins bien, à leurs besoins de soins dentaires. Mais la longévité a augmenté depuis le début de 20^e siècle grâce aux immenses progrès réalisés dans le domaine de la santé publique.

"Il y a augmentation remarquable du nombre de personnes âgées dans notre société. Au Canada, bientôt, on comptera environ 2 millions de personnes âgées de 65 ans et plus (1966). La tâche de subvenir aux besoins des personnes âgées et d'autres patients spéciaux, y compris les soins dentaires, pourrait doubler en 1970".³

Plans peu efficaces

Les problèmes dentaires des personnes âgées, des handicapés, etc, ont été l'objet de nombreuses études. Certains plans ont été mis à l'essai. Les praticiens privés ont fait et font des efforts louables pour procurer à ce segment de la population les meilleurs soins dentaires possibles, toujours dans des limites restreintes cependant. Selon l'avis de la plupart de ceux qui ont étudié le problème: "Il s'est fait très peu sur une grande échelle, en vue d'assurer à ce segment toujours grandissant de notre population des soins dentaires adéquats, sauf si l'on tient compte de certaines facilités de traitements à la portée de ces gens, réparties dans des sections très éparpillées de notre territoire".

Il reste donc beaucoup à faire avant de pouvoir dire que cette partie de notre population reçoit les soins dentaires appropriés auxquels elle a droit.

Quelques questions

Quelle somme d'informations possédons nous sur les besoins dentaires de la population âgée et des autres patients spéciaux, ainsi que sur les ressources dont nous disposons pour leur assurer des services adéquats?

En 1966, par exemple, après les assises d'un

Comité National d'Etude sur le Vieillissement, le Dr D. W. Lewis, qui y représentait l'Association Dentaire de l'Ontario, faisait rapport à son association comme suit: "Une étude des besoins dentaires des personnes âgées et des moyens à notre disposition pour y répondre s'impose d'urgence, étant donné que des renseignements précis sur ces deux questions sont à peu près inexistantes".⁴

La même année, le Dr G. T. Mitton, dans son rapport à l'Association Dentaire de l'Ontario, à la suite d'une réunion d'étude sur les maisons d'hébergement pour gens âgés et handicapés ou malades chroniques, disait ceci: "De l'avis des dirigeants de ces maisons, les soins dentaires offerts aux personnes qui y vivent sont totalement inadéquats".⁵

Les priorités consisteront donc à connaître les besoins de toutes les personnes âgées, handicapés, reclus, etc, et ensuite à élaborer des programmes pour leur assurer les soins de santé dentaire adéquats.

Certaines autorités de la santé publique se sont déjà prononcées. Ainsi, le Dr D. J. Galagan du United States Public Health Service disait: "Les soins dentaires devraient faire partie intégrale des programmes de santé dans les maisons d'hébergement, des programmes de soins à domicile et d'autres organisations qui s'occupent des personnes âgées, des malades chroniques et des handicapés".⁶

Voilà un programme d'envergure et pour le réaliser il faudra faire appel à l'intérêt, à la compréhension de centaines de dentistes, de centaines de professionnels de la santé, ainsi qu'à la communauté en général et provoquer des changements d'attitude envers ces patients spéciaux dans la profession dentaire, le milieu universitaire, la communauté, et peut-être aussi chez ces patients spéciaux.

Etude des besoins

C'est la grande priorité. Et quelque soit l'organisme qui décide de prendre le leadership du mouvement vers des buts précis, il faudra procéder selon des principes bien éprouvés de la santé publique:

1. Enquête pour connaître la nature et l'étendue des problèmes;
2. Analyse des données recueillies;
3. Planification — établir des programmes adaptés aux besoins;
4. Financement des programmes;
5. Mise en marche des programmes;
6. Evaluation à toutes les phases.⁶

Obstacles à surmonter

Ils sont nombreux et variés. Nous prêterons une attention spéciale à deux de ces obstacles: (1) l'absence d'équipement portatif convenable et (2) le dentiste praticien et la communauté.

Pour ce qui est de l'équipement portatif, cet obstacle est en pratique surmonté. Un fabricant d'équipement dentaire de grande réputation a contribué à le solutionner en fabriquant toutes sortes d'appareils dentaires portatifs et légers. De plus, cette maison a jugé rentable la production de ces appareils portatifs. Ils ont d'ailleurs été mis à l'épreuve avec

succès et des résultats plus que satisfaisants par la Case Western Reserve University School of Dentistry, à Cleveland, Ohio, lors de l'application de son programme de soins dentaires offerts aux personnes âgées, handicapés, et autres patients spéciaux⁷.

Pour le dentiste praticien, le soin des gens âgés, des handicapés, surtout en-dehors de sa clinique, est un concept entièrement nouveau. La même chose est vraie pour les membres du personnel enseignant des facultés de chirurgie dentaire.

Il existe aussi d'autres obstacles: manque de personnel qualifié, manque de fonds pour financer les programmes de recherches et les expériences-pilotes.

Conclusion

A la suite de divers rapports présentés par le Conseil d'hygiène publique sur les problèmes de la Gérodonologie, le Bureau des Gouverneurs de l'Association Dentaire Canadienne a adopté la résolution suivante, lors de sa réunion annuelle, à Montréal, en juillet 1969:⁸

"Attendu que la gérodonologie prend de plus en plus d'importance au rythme de l'accroissement de la population canadienne;

"Attendu que la profession dentaire ne s'est pas suffisamment préoccupée de ce problème;

"Attendu qu'au Canada plusieurs personnes âgées sont handicapées et souffrent de maladies chroniques;

"Il est résolu que:

1. "la Division dentaire du Ministère de la Santé Nationale et du Bien-être Social soit priée d'aider les Divisions dentaires des Ministères provinciaux de Santé à entreprendre des relevés (sur lesquels se base l'Index de santé dentaire du Canada) en élaborant une méthodologie pour ces enquêtes;

2. "les dites enquêtes renferment des renseignements au sujet de l'état dentaire des personnes âgées;

3. "la chirurgie dentaire, en tant que profession

organisée et en possession de renseignements plus factuels au sujet des problèmes dentaires des personnes âgées, songe aux implications de ce problème et aux moyens de le résoudre;

4. "les facultés de chirurgie dentaire soient invitées à offrir des cours portant sur le traitement des personnes âgées;

5. "les sociétés dentaires soient encouragées à inviter des conférenciers à présenter à leurs membres des communications traitant de gérodonologie;

6. "les sociétés dentaires soient priées d'élaborer des programmes d'étude à ce sujet".

Le Conseil d'hygiène publique de l'ADC, tout en admettant que ce travail n'est qu'une ébauche des problèmes de la gérodonologie et de leur solution, considère avoir accompli son devoir en plaçant la profession dentaire en face de ces problèmes.

L'auteur remercie le Dr K. W. Davey, président du Conseil d'hygiène publique, qui lui a fourni toute la documentation disponible sur la gérodonologie.

Adresse de l'auteur: 1745 Girouard, Saint-Hyacinthe, Qué.

1 Stieglitz, E. J. Geriatric medicine. Ed 3. Toronto, Lippincott, 1954.

2 Now, for the chronically ill and aged: a plan for total dental services. Ohio, Western Reserve University, 1967.

3 Matthews, V. L. The public health implications of population trends. Canad J Public Health 57:60, 1966.

4 Lewis, D. W. Canadian conference on aging. Report to the Board of Governors, Ontario Dental Association, 1966.

5 Mitton, G. T. Institute on nursing home care. Report to the Board of Governors, Ontario Dental Association, 1966.

6 Galagan, D. J. Dental care for the chronically ill and aged; emphasis on rehabilitation. 12th National Dental Health Conference. American Dental Association, April 1961. J Amer Dent Ass 64:155, 1962.

7 Sheldon, M. P. Recent developments concerning dental care for the chronically ill and aged. J Amer Dent Ass 59:505, 1959.

8 Bureau des Gouverneurs. Délibérations de l'Association Dentaire Canadienne 1969. p 82.

Le dépistage du cancer — Qui doit prendre l'initiative d'organiser le dépistage massif de certaines formes de cancer: le gouvernement ou la profession médicale? Depuis quelques années, les médecins (je parle de ceux que la cancérologie intéresse et qui sont malheureusement trop peu nombreux) ont fait des efforts méritoires pour attirer l'attention du gouvernement sur les mesures à prendre dans la lutte au cancer. Les facultés de médecine commencent à s'intéresser à un meilleur enseignement de la cancérologie.

Les facultés de médecine, les hôpitaux, la profession médicale et les professions para-médicales en cause doivent unir leurs efforts pour guider l'action gou-

vernementale. Avant, bien sûr, il faut la susciter. Québec qui sait faire doit faire vite!

Le public lui-même doit pousser sur la roue pour faire avancer le chariot. Il n'a plus le droit de faire l'autruche, de se cacher la réalité. Il doit non pas seulement accepter les examens de dépistage mais les réclamer. La peur du cancer n'empêche pas le mal mais elle pourrait au moins canaliser toutes les énergies pour sauver des vies, accorder des sursis. La science ne dit jamais son dernier mot et prouve qu'elle a raison de laisser une porte ouverte à tous les espoirs. — Claire Dutrisac.

Book Reviews

Dental Radiology

A. H. Wuehrmann and L. R. Manson-Hing. Ed 2. St. Louis, The C. V. Mosby Company, 1969. 455 p. Illus. \$20.35

This is a very good reference book for the general practitioner who wants to improve his radiographic technique. Doctors Wuehrmann and Manson-Hing are well known as researchers, as editors and authors of works on radiation protection, paralleling technique, radiographic interpretation of dental caries and dental radiology. They use this background as a basis for their book.

Almost half the work is devoted to physics; a description of x-ray apparatus; hazards and protection; detailed instruction in intra-oral and extra-oral techniques; panoramic radiography; darkroom procedure; radiographic surveys; viewing and radiographic image; aids for radiographic interpretation; and other radiographic systems of interest such as xeroröntgenography, log electronics, Land polaroid processing and field emission generators. Chapter 11 on skull osteology is particularly useful for refreshing one's knowledge of anatomy.

There is a new chapter on panoramic radiography and several illustrations have been changed to show the use of the short lead-lined tube rather than the more hazardous short pointed cone. Apart from this, the second edition differs little from the first.

It is imperative that general practitioners distinguish normal and abnormal radiographic appearance. Recognition of variations of normal radiographic appearance is particularly critical in making the interpretation. Regrettably, however, the material in chapter 13 (normal radiographic anatomy) overlooks this important question when it devotes whole pages to illustrate the difference between porcelain jackets, acrylic jackets and zinc phosphate cement. Such illustrations could be combined on one page without losing their usefulness. On the other hand, chapter

16 (diseases of radiographic importance) occupies only six pages (3½ of them, with multiple radiographs on the page) to illustrate neoplasms. The authors did not intend to write a specialized text on radiographic interpretation and their book does not go beyond its purpose. Nevertheless, they have produced a well printed and illustrated book for the practitioner who wants to evaluate and improve his technique of exposing and processing radiographs.

J. A. Reid

Compendium of Pharmaceuticals and Specialties (Canada) 1969

F. H. Hughes and G. N. Rotenberg. Ed 5. Toronto, Canadian Pharmaceutical Association Inc, 1969. 979 p. \$8.00

This fifth edition of Canada's leading reference text on pharmaceutical products has been revised to describe virtually all marketed Canadian prescription drug and specialty products in convenient alphabetical sequence. In addition to the physical and quantitative specifications of its formula, each drug is described in terms of indications, contra-indications, precautions, adverse effects, dosage and supply. Each specialty product is identified as to its non-proprietary name or names of the active ingredient. Additionally, a therapeutic category is shown for each pharmaceutical or specialty.

The *Compendium* again includes the customary coloured sections. The pink pages (Prescriber's Guide and Therapeutic Index) list manufacturers' products under therapeutic headings. The green pages section (Non-proprietary Names Index) links generic names with the chemical names and brands and their manufacturers. The buff pages (Trade Names Index) show for each listing a generic name and are the reverse listing of the green pages section.

A white reference section at the back of the book again contains a list of Canada's poison control centres, a Latin prescription terminology and *Compendium* abbreviations, information on calculation of drug dosage in children, and other useful information.

A French addendum to the *Compendium* is expected very shortly.

The Canadian Pharmaceutical Association intends to continue publishing annually revised editions of the *Compendium*. The book thereby remains Canada's most reliable reference on drug preparations.

F. H. Compton

Diagnosis of Diseases of the Mouth and Jaw

E. V. Zegarelli, A. H. Kutscher and G. A. Hyman. Philadelphia, Lea & Febiger, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 583 p. Illus. \$38.50

The authors of this book had two objectives: (a) to present the numerous and varied diseases affecting the mouth and jaws in as comprehensive a manner as possible, and (b) to organize their material so that it has immediate and practical value to dentists and physicians in resolving their diagnostic problems.

They have accordingly gathered contributions from 51 specialists and experts in specific fields of dentistry and medicine.

The book is divided into 24 sections that include general principles of oral diagnosis and all the diseases and abnormalities ordinarily found in dental textbooks. Also mentioned are diseases of the skin, nose, throat and eyes which have manifestations in common with oral lesions or are in proximity to oral tissues.

Each entity is presented in an orderly fashion. Clinical signs and symptoms are followed by an evaluation of information gained from the case history. Diagnostic aids like laboratory tests and radiographic findings are discussed in relation to the final diagnosis. Treatment and management of many diseases are suggested.

References for further reading are available at the end of each section.

Inside the back cover there is a list of emergency medications and equipment for the dental office as well as instructions for cardio-pulmonary emergency procedures.

There are 120 colour plates in addition to black and white illustrations. The colour plates depict many of the lesions likely to be encountered by the dentist in general practice.

The book is well written and easy to read. Many sections are outstanding,

especially the section on diseases of the temporomandibular joint.

The authors together and the contributors present a wealth of material that will greatly aid the reader in diagnosing diseases of the mouth and jaws.

R. H. Bingham

Sear's New Teeth for Old

W. A. Hall, Jr. Ed 5. St. Louis, The C. V. Mosby Company, 1969. 101 p. Illus. \$4.40

This is a revision of an earlier book by the late Victor H. Sears. Its purpose is to acquaint readers with facts about artificial dentures. The author contends that if people were more familiar with the problems encountered with dentures, and their solution, they would find it easier to face the transition from natural teeth to artificial teeth and to master new dentures.

The book is intended for the patient who is to receive dentures and is written in simple style.

The first two chapters deal with the importance, care and restoration of one's own teeth. This information is somewhat misplaced for readers who are about to lose their teeth. The next eight chapters deal with the construction, wearing and care of dentures. The final chapter concerns types of food that can and should be eaten to maintain a balanced diet while learning to use new dentures. Chapter nine is particularly good; it introduces many useful hints on mastering mastication, speech and hygiene. The book is illustrated with cartoon drawings; these add little to the text other than some comic relief.

Nevertheless, Dr. Hall has given us a worthwhile book for the patient who is apprehensive about having to wear dentures. He shows many problems that are encountered with dentures and how these can be minimized so that the patient can be reasonably normal and comfortable.

G. C. Stirling

Work Simplification in Dental Practice

H. C. Kilpatrick. Ed 2. Toronto, W. B. Saunders Company, 1969. 702 p. Illus. \$27.00

"Do I have to discard all my conventional equipment in order to operate more efficiently?" The author replies with an emphatic No! The dentist can increase his output by regrouping exist-

ing equipment and retraining his staff (including himself) along good work simplification lines.

Hundreds of photographs with clear concise captions illustrate the sequence of procedures advocated by Kilpatrick and his consultants. The latter reads like a "Who's Who" of American dentistry: Lloyd Baum, Ed. Green, David Hoffman, Ralph Phillips, Charles Stebner, Robert Stinaff, Roy Wolff, and many others. Thanks to the illustrations, the reader virtually feels that he is present in the treatment room with the operator. Experienced practitioners will add years to their professional earning power, and senior dental students can start on the right foot after reading this book.

The Westchester Fairfield Work Simplification Group has updated its techniques in this new edition. Also explained are arrangements that can benefit an orthodontic practice.

Elsewhere, a new chapter on periodontal practice presents time-saving and back-saving procedures for simple prophylaxis—a subject that interests all general practitioners.

The increasing importance of endodontics is reflected in recommendations for simplified root canal procedures.

Other chapters deal with the training of chairside assistants, training manuals, office decoration and planning, tray systems, efficient use of different kinds of equipment for functional operating, clinical restorative procedures, surgical, orthodontic, periodontal and endodontic procedures, business office procedures (including a comparison of computerized and peg-board systems), case presentation, work simplification in large clinics, body mechanics and physical fitness for the dentist.

In brief, this excellent book constitutes a veritable new bible in dentistry.

Marcel Hébert

Synopsis of Oral Pathology

S. N. Bhaskar. Ed 3. St. Louis, The C. V. Mosby Company, 1969. 571 p. Illus. \$12.95

The third edition of this valuable synopsis repeats the format of its predecessors. Part 1, consisting of charts, divides lesions of the oral cavity into 12 clinical categories. The usual location and age, predominant sex, clinical features, microscopic features, treatment and prognosis are listed in tabular form. Part 2 outlines the general principles of oral pathology. Parts 3, 4 and 5 deal respectively with pathology of the teeth and jaws, pathology of the oral mucosa, tongue and salivary glands, and special oral pathology.

Pertinent findings from recent research have been incorporated in this

edition. More than 50 new figures and comments on at least one new lesion, the mucous cyst, have been added.

Doctor Bhaskar has written a book which brings oral pathology to the chairside clinician. His success in this task is attested by the book's popularity with dental students and practitioners; they find it an excellent up-to-date quick reference which gives enough information to make a tentative clinical diagnosis.

The text is unencumbered with detail, yet clearly outlines differences between similar lesions. Used as a guide to diagnosis, it is one of the most valuable books for an office library. For the additional information required to formulate a treatment plan, the dentist must, of course, turn to more detailed books or the current literature.

K. A. McMurchy

Textbook of Crown and Bridge Prosthodontics

G. E. Myers. St. Louis, The C. V. Mosby Company, 1969. 283 p. Illus. \$11.85

Others who write on this subject usually incorporate their personal principles and convictions. Myers, however, takes a different course. He expounds nothing new but succeeds in condensing standard information into the smallest textbook available. Except for basic principles of casting, which are actually very sketchy, the book deals strictly with the simplest and most straightforward cases. There is no deviation from this approach, practically no variety, and no suggestion as to the scope or limits to which the principles may be applied.

As a text for undergraduates this publication can only be considered a "companion" to other books on operative or restorative dentistry, periodontics and prosthodontics. In spite of this, few basic facts, truths and reasons have been omitted. This is undoubtedly due to excellent planning and meticulous assembly of the material at hand.

L. J. Archibald

Dentistry for the Child and Adolescent

R. E. McDonald. St. Louis, The C. V. Mosby Company, 1969. 539 p. Illus. \$19.25

When Doctor McDonald, professor of paedodontics at Indiana University, published his smaller *Pedodontics* in 1963, it proved a most valuable addition to the literature on dentistry for children.

Here was a new approach by an experienced and devoted teacher. Despite its small size, the book provided better and more up-to-date information than many larger volumes.

From this small but vigorous beginning has come a new textbook with an even wider scope. The original text has been expanded and improved by additional illustrations and several new sections have been added.

A dentist soon realizes that child patients are much more complex individuals than he may have assumed from his undergraduate exposure to paedodontics. Some of the problems he encounters cannot possibly be covered in an undergraduate curriculum. Many of these questions are now answered by new chapters on growth of the face and dental arches, genetic aspects of dental anomalies, speech performance and speech therapy, oral infections and skin diseases in children, oral tumours, and dental problems of the handicapped child. Sections on radiography for children, dental materials, tooth-brushing and oral hygiene instruction give additional valuable information for everyday practice.

The section on special dental problems of the adolescent describes some of the more complex restorative and prosthetic procedures when permanent teeth are fractured, lost or congenitally missing.

Numerous references throughout the book explain why the reader should follow or recommend certain procedures. Some methods advocated by eminent practitioners are described in considerable detail with interesting illustrations.

The book is printed in the new two column style for fast and easy reading. It serves as an excellent reference volume for student and dentist alike. For the more seasoned practitioner who reads it from cover to cover, it is also a personal postgraduate course on how to practise better paedodontics.

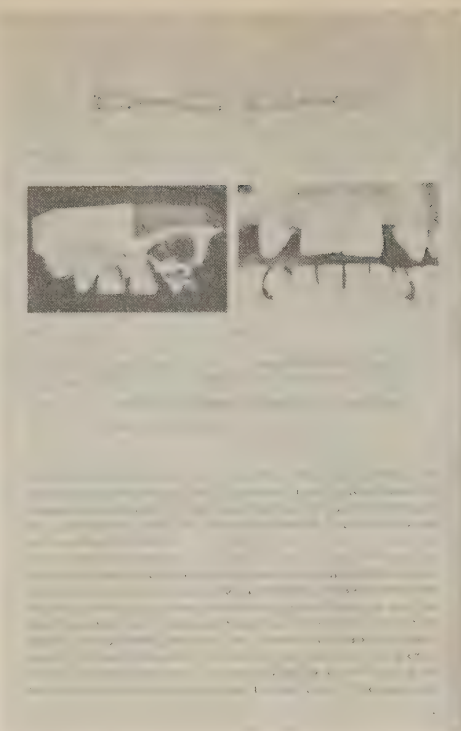
G. H. Weinlander

Analyse de livres

Appareillage Fixe en Orthopédie Dento-faciale

R. Hotz. Paris, Julien Prêlat, 1969. 107 p. Illustré. 32 F.

Petit fascicule de 107 pages où l'auteur s'applique à chercher une place aux appareils fixes afin de combler ce qui semble être une lacune des appareillages amovibles ou fonctionnels, cet ouvrage est avant tout un recueil de recettes techniques pour traiter ce que l'auteur appelle "les petites anomalies orthodontiques".



Un chapitre est consacré au matériel et aux instruments. On y décrit une méthode de former les bagues à partir de morceaux de bandes métalliques, le tout assorti de quelques photos d'ustensiles au repos ou en fonction.

L'auteur a puisé à même les techniques maîtresses comme "Edgewise", "Begg", "twin arch" et "labial arch" quelques fragments de leur mécanique respective pour les appliquer à des traitements d'anomalies comme excédent ou manque d'espace, bécance partielle, articulé croisé, rotation, etc.

Sorties de leur contexte scientifique et traitées aussi légèrement, les grandes techniques nord-américaines y font figure de recettes de dernière heure (une sorte de soupe "au cas où").

Les techniques par appareillage fixe, selon l'auteur, sont de deux sortes: une par arc vestibulaire ou labial, l'autre par arc lingual. Deux courts chapitres en font la description sommaire.

Lecture intéressante, mais peu enrichissante.

L. Bossé

Chirurgie Parodontale

K. M. Kardel. Paris, Julien Prêlat, 1969. 125 p. Illustré. 44 F.

Une traduction par Francis Bauer de l'ouvrage de Kardel intitulé *Chirurgie Parodontale*, ce manuel est un traité pratique de chirurgie périodontaire très bien illustré et qui peut rendre de grands services aux praticiens généraux ainsi qu'aux étudiants en chirurgie dentaire.

Au début de l'ouvrage, le traducteur

consacre quelques pages à définir la terminologie employée par l'auteur dans son traité.

Le premier chapitre met en évidence l'importance de l'hygiène buccale avant de procéder à la phase chirurgicale. L'auteur ensuite y discute brièvement des différentes procédures chirurgicales, leurs buts et leurs indications.

Le deuxième chapitre traite de l'instrumentation utilisée pour l'examen et les traitements chirurgicaux.

Dans le troisième chapitre, la technique chirurgicale est décrite avec minutie de façon claire et précise à l'aide d'illustrations et de photographies. Pour la gingivectomie, par exemple, l'auteur précise les différentes étapes (anesthésie, points sanglants, incisions, excisions, élimination de tissus de granulation, du tartre; polissage des surfaces radiculaires, correction de l'incision, inspection, pose et changement du pansement chirurgical et contrôle de l'hygiène).

A l'aide d'un tableau simple et complet, l'auteur décrit les différents soins que le patient doit prendre après une intervention de chirurgie parodontale.

Les autres procédures chirurgicales décrites sont la gingivoplastie, la gingivectomie avec ostéoplastie et aussi avec plastie des insertions, et l'opération à lambeau. Toutes ces procédures sont discutées phase par phase à l'aide de schémas et de photographies.

Je suis d'avis que l'auteur aurait pu ajouter énormément à la valeur de son traité en illustrant les cas décrits de radiophotographies. La technique employée pour la suture des lambeaux aurait pu aussi être plus clairement décrite par l'addition de quelques photos supplémentaires. D'autre part, le "glissement" apical du lambeau périosté est traité trop succinctement.

L'auteur a bien mis en évidence la valeur de l'hygiène dentaire en montrant que les interventions chirurgicales doivent être considérées comme des "traitements préparatoires à l'hygiène dentaire". Ce petit volume (121 pages), sans discuter à fonds toutes les techniques chirurgicales connues, a le mérite d'être très facile à lire et à comprendre; il peut rendre de bons services aux étudiants désirant s'initier aux techniques chirurgicales parodontales.

Sam Galperin

Educational Films

The Canadian Dental Association sponsors the distribution of the following nine 16 mm educational films which may be borrowed without cost. The films may be booked from Modern Talking Picture Service, Inc, 1875 Leslie Street, Don Mills, Ont. Telephone: 444-7347.

TEETH ARE TO KEEP 11 min. A National Film Board production. This film explains, using animation, how children should remember to care for their teeth. (For elementary schools only.)

DANNY'S DENTAL DATE 22 min. Using puppets, this film discusses the teeth and what they mean to everybody. (For elementary schools only.)

AN INTRODUCTION TO SOMEONE YOU KNOW 25 min. This is a colourful film displaying the intriguing life of a typical dentist and how he becomes a part of some people's lives when dental work is required. The drama unfolds following an accident. (For schools - career.)

THE CHALLENGE OF DENTISTRY 28 min. A thoughtful message for young men and women interested in a career in dentistry; subjects to take in school, nature of professional study, cost, etc.

PATTERN OF A PROFESSION 28 min. An excellent general interest film on the dental profession. Explains the research and background of a dentist and how the profession is striving to develop their knowledge. (Career - general interest.)

DENTISTRY THROUGH THE AGES OF MAN 23 min. This film acquaints the viewer with key concepts of modern dentistry and stimulates a desire to take advantage of its benefits. After a brief introduction contrasting the world of modern dentistry with that of prehistoric man, the film demonstrates the need for dental care throughout life, beginning with infants and progressing through childhood, youth, adulthood and old age. (Health - general interest.)

WHY FLUORIDATION? 14 min. The subject of fluoridation is covered in depth in this excellent film. Answers are given to the effectiveness and safeness of using fluoride. This film is a must for all to see how the use of fluoride in water can provide stronger and healthier teeth. (Health - general interest.)

ORAL CANCER 31 min. Presents a detailed examination for clinically detectable cancer of the mouth, illustrating with data the value of early detection. (Available to the dental profession only.)

ORAL EXFOLIATIVE CYTOLOGY 18 min. Smear technique for earliest

detection of possible mouth cancer. (Available to the dental profession only.)

THE DENTIST AND CANCER. Stresses methods of biopsy, prompt treatment and oral prostheses. (Available to the dental profession only.)

Additions to the Library

AMERICAN ACADEMY OF PERIODONTOLOGY, THE. Current procedural terminology for periodontics. Ed 2. 1969. 44 p. Illus.

AYERST, LABORATOIRES. Glossaire des termes médico-hospitaliers préparé par le Comité d'Etude des Termes de Médecine. Mars 1966. 47 + Mars 1968, 50 p.

Glossaire des termes pharmaceutiques établi par le Comité d'Etude des Termes des Médecine. Vol IV. 55 p.

Vocabulaire de la langue des assurances sociales et des assemblées délibérantes préparé par le Comité d'Etude des Termes de Médecine. Montréal, Laboratoires Ayerst. 35 p.

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New conflict over pay in Britain

Britain's National Health Service provides a fertile substrate for the smouldering embers of discontent. This summer they ignited once again into a searing conflagration which could have far-reaching repercussions. What happened is this:

Remuneration for British practitioners is or should be based on periodic recommendations of a small Review Body, formed some years ago to take the issue out of the political arena. A Royal Commission recommended the formation of this body, which includes bankers, an actuary, an economist, a lawyer and an industrialist. In determining rates of pay, the Review Body takes into account earnings in comparable professions as well as problems of manpower and workload. It was clearly understood that the findings of the Review Body would not be referred to any other body and should not be rejected or modified except for some compelling reasons such as a national economic crisis.

The Review Body presented its latest recommendations last March to former Prime Minister Harold Wilson, who delayed publication until the beginning of June — perhaps because the report advocated an across-the-board rise in physicians' and dentists' pay of 30 per cent. If this sounds like a lot of money, we must remember that inflation has been depreciating British money by about 11 per cent a year.

Mr. Wilson then decided to grant practitioners 15 per cent on account while he referred the whole report to a government body, the National Prices and Incomes Board. The Review Body resigned en masse, and the medical and dental professions hit the roof. Dentists, with memories of the days before the establishment of the Review Body, were particularly irate. They had not forgotten how high earnings in the very early days of the National Health Service were achieved by working excessively long hours to meet the enormous demand for dental treatment — a de-

mand whose extent was clearly and totally unexpected by the government although it was foreseen by the British Dental Association. They recalled how the government had stemmed this demand — and brought down their incomes by 38 per cent — by imposing arbitrary cuts in fees and introducing charges for treatment to the patient. And they remembered the bitterness and frustration engendered by decisions which had to be accepted and by never knowing when the next one was coming.

The Review Body was supposed to eliminate these grievances. Over the years it earned the trust and respect of the professions and the government as it discharged its mandate to protect the public from exploitation and protect the professions exposed to the whims of a monopoly employer from economic injustice. But now the Prime Minister was sending its findings to be re-reviewed by a body without special knowledge of the subject.

True, Mr. Wilson was contesting a general election. A main plank in his platform was that the economy had never been better. To reject the findings of the Review Body outright might have invalidated that claim; yet to have granted the 30 per cent increase might have alienated supporters who were feeling the pinch of inflation. Perhaps that is why he chose evasive action — but in the end it didn't help him either.

The new Conservative administration moved quickly to defuse this explosive situation. It proposed, and the professions accepted, an offer to withdraw the previous Review Body's report from the Prices and Incomes Board and to re-establish a new autonomous Review Body. This action may serve to repair the mechanism by which British practitioners' remuneration can be reviewed objectively and fairly; but it cannot entirely expunge the distrust of politicians who manipulate the earnings of physicians and dentists in the public service to regulate the national economy.

Une dame à habiller

"L'homme doit être élevé pour la guerre et la femme pour le repos du guerrier: tout le reste est sottise", écrivait Nietzsche dans *Ainsi parlait Zarathoustra*. Pendant que les hommes continuent à s'entretuer parce qu'ils sont blancs ou noirs, catholiques ou protestants, juifs ou arabes, et que le mouvement de libération des femmes demande l'égalité avec le sexe masculin (afin qu'elles aussi puissent s'entretuer?), les médecins, les dentistes, ont continué leur bataille contre les maladies qui ravagent la population.

Des milliers de petits combats ont lieu chaque jour dans les bureaux, dans les cliniques d'hôpital et dans les universités alors que le praticien, l'éducateur et le chercheur contribuent, chacun à sa façon, à soulager la condition humaine.

Tout le monde parle d'avoir un plus grand nombre de dentistes pour desservir la population. Le simple fait de sortir plus de dentistes serait un exercice stérile si la qualité des finissants n'est pas maintenue et si la répartition des praticiens, surtout dans les régions éloignées n'est pas encouragée par des subsides des gouvernements provinciaux. Les associations provinciales et l'ADC doivent continuer à employer leur influence afin de sensibiliser les bureaucraties gouvernementales au problème de la distribution des dentistes dans les centres défavorisés. De grosses sommes d'argent devront être déboursées pour atteindre cet objectif.

D'autre part, les dentistes canadiens, avec des ressources restreintes, peuvent contribuer efficacement à la formation des enseignants sur qui dépend tellement l'instruction des nouveaux dentistes. Durant les

10 dernières années, le nombre de finissants a augmenté de 63 p.c. Les 350 dentistes diplômés cette année au Canada n'arriveront pas à satisfaire les besoins en effectifs dentaires.

Depuis 1962, le Fonds canadien pour l'enseignement dentaire a contribué plus de \$165,000 à l'éducation dentaire. Plus de \$100,000 ont été distribués en forme de bourses pour former des professeurs. Le FCED a également distribué \$34,000 aux facultés dentaires canadiennes et \$20,000 à d'autres projets reliés à l'enseignement.

C'est donc ici, au niveau du FCED, que le dentiste praticien peut le mieux participer à l'épanouissement de sa profession. C'est ici que chaque dollar rapporte des dividendes dont tous profiteront, public, étudiant et praticien.

Pitigrilli décrit ainsi l'importance de l'accoutrement que l'on donne aux symboles: "Une dame nue sera simplement immodeste, comme disent les ecclésiastiques; mais si vous lui mettez un arbre derrière le dos, elle devient une nymphe. Si vous lui mettez un cygne entre les jambes, elle devient Léda; si vous lui mettez des légumes dans les mains, elle devient Cerès, un miroir, c'est la Vérité, une épée, la Victoire; si vous lui attachez aux pieds un fragment de chaîne, elle devient la Liberté. Avec une chemise de nuit boutonnée sur les épaules, c'est la tragédie. Enfilez lui une jarretière, elle devient une cocotte".

C'est aux dentistes canadiens de décider quelle parure portera notre profession. Si vous aimez votre carrière, vous répondrez généreusement à l'appel du Fonds canadien pour l'enseignement dentaire.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association Dentaire Canadienne. Vous êtes invités à participer à cette section du Journal.

Kinematography for occlusal correction

A machine like Griffin's mandibular kinematograph (page 323, September Journal) that can delineate neuromuscular problems is credible but one that can correlate exact prematurities, "indicate the method of occlusal correction" and "monitor the therapy" appears far-fetched.

If the kinematograph can assess the integrity of the neuromuscular mechanism it is a useful tool. However, it appears to be much too simple an apparatus to perform this function. We must not forget that the neuromuscular picture is never constant; it varies from day to day depending upon the environmental stress placed upon the central nervous system. We must also remember that there are patients who have neuromuscular systems capable of establishing an equilibrium even in cases of extreme skeletal disharmony. The amputee who skis better on one leg than most other skiers on two; the tight-rope walker who can do somersaults on a tightrope – these are neuromuscular feats analogous to the patient who has unbelievable skeletal discrepancies in the gnathic organ yet a comfortable neuromuscular system.

I have treated syndrome cases in which it took as long as two hours just to condition the temporomandibular

joints prior to equilibration.

If you follow the path of a mandibular buccal cusp on the balancing side in lateral movement of the jaw, you would find that it moves downward, forward and inward in relation to the maxillary tooth. This is a three-dimensional movement which is generated by two temporomandibular joints. When the teeth on the balancing side perform their functions, the teeth on the working side must do their work in the same unit of time. Hence mandibular function is four-dimensional. I cannot fathom how the kinematograph's stylus can give all the information and correlate what must be done to the teeth.

The most accurate instrument in existence today for recording these complex movements is Messerman's analogue computer. This instrument accurately records abnormal as well as normal function. In spite of its accuracy, I would only rely on the analogue computer when it records while the patient is under general anaesthesia at which time function on a skeletal basis is most assured.

From a practical standpoint, human eyes and hands can only work to a certain tolerance – approximately within a thousandth of an inch. The amount of function in the temporomandibular joints is so small before teeth become completely disarticulated that it is impractical to capture these movements in detail. Instruments devised for this purpose therefore serve only academic interests.

Some manufacturers of complex instruments would have us believe that all the factors that produce tooth form are found in the temporomandibular joints, but this is not so. Except for terminal hinge relation which must be absolutely adhered to, the tooth area is the major determinant. The plane of occlusion, curve of Spee, plane of Wilson, curve of Wilson and anterior guidance are most important in producing harmony in the gnathic organ. The answer cannot be found in the temporomandibular joints alone or in the neuromuscular system. An instrument that can perform all the functions claimed by the kinematograph is devoutly to be wished; however, it will have to be presented in

much greater detail before I would give it serious consideration.

*John Vincelli, DDS
4484 Sherbrooke St West
Westmount 215, Que*

Birthday card program

I was gratified by Doctor Gray's response to my criticisms of his dental birthday card program. While my original comments (page 275, August Journal) were addressed to the specific comparisons made in the published report (May Journal), I would heartily agree that fine dental health programs can be instituted on the basis of common sense. I am pleased that Doctor Gray agrees on the potential value of statistical evaluation. There are only losers in an argument between common sense and scientific rigour – the correct approach has to be a combination of common sense and scientific rigour.

It is a stroke of genius that produces an idea like the dental birthday card program, and I would be the last person to advocate delay of its implementation pending experimental validation. The lesson to be learned is that empirical evaluation of a program can proceed *concurrently* with its implementation (only a small segment of the population is required for the statistical comparisons) so that after a number of years we can both evaluate the program with increased certainty and compare it meaningfully with other programs of a similar or quite different nature.

Dental health authorities may not be expert in experimental matters – there is no reason why they should be – but there is hardly a university on the continent that does not have such experts available for consultation. I would earnestly recommend that program developers make full use of such facilities – the result of which will ultimately be selection of the very best programs – selection that will be made with the highest possible degree of confidence.

I wish Doctor Gray and his associates increasing success with their imaginative program.

*Eric Jackson, BDS (Glas), LDM (Man)
6602 Northumberland Ave
Pittsburgh, Pa 15217, USA*

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

My Girl Friday

There's a new voice answering my telephone for me. After 25 years of loyal, highly competent and willing service to the CDA, Mrs. Helen Collins Armstrong — my secretary for the last six years—decided to give her husband, Sandy, top priority.

Mrs. Armstrong has given up her position with the CDA and plans to settle down to a life of bliss in Reabro, Ont. I'm sure those dentists across Canada who have had the pleasure of talking and meeting with her will want to join the headquarters staff and me in saying a fond farewell. We thank her for the pleasant, dedicated manner with which she has helped us all and wish her good health and happiness in the years ahead.

The new voice on the telephone belongs to another charming young lady, Mrs. Olive Henry. My new secretary has already demonstrated a willingness and ability to work most efficiently and pleasantly. Mrs. Henry comes to us from Radio Speakers of Canada Ltd, where she was secretary to the president and vice-president. In her spare time she is a volunteer driver for the Canadian Red Cross.



Mrs. Olive Henry

Doctor Gullett honoured

The outstanding contribution to the arts and science of dentistry of Toronto's Doctor Don W. Gullett was recognized September 14 by the United States of America. In the beautiful setting of the American Embassy residence in Ottawa, the Hon. A. W. Schmidt, US Ambassador to Canada, presented Doctor Gullett with the Pierre Fauchard Academy's Elmer S. Best Memorial Award. The annual award is given to worthy recipients from outside the continental United States.

Several members of Doctor Gullett's family, including Mrs. Gullett, as well as some 50 dentists and their wives from Canada and the United States were on hand for this distinguished event. A reception followed.

Doctor Lloyd Grose, Toronto, chairman of the academy's Canadian section, and Cleveland's Doctor Howard Hartman, awards committee chairman and academy treasurer, were responsible for the excellent local arrangements.

Presidential visitations

By the time the Journal is in your hands, CDA President Bill Spence will have begun his "grand tour." He will have met with the Northern Ontario Dental Association in Sault Ste. Marie, the Prince Edward Island Dental Association in Charlottetown, the Quebec City Dental Society, the Atlantic Provinces meeting in Sydney, NS, and the Newfoundland Dental Association in Gander.

He and I will have travelled together as far as Gander. Doctor Spence will have made the return trip to Toronto and I will have travelled on to Bucharest, Rumania.

I will be one of CDA's delegates to the 58th Annual Session of the Fédération Dentaire Internationale. I hope to report on these meetings in the next issue of the Journal.

Several governmental commissions have lately urged that private professional associations should no longer be financed with dues collected through licence fees levied in pursuit of the public interest. If this principle becomes law, it could deprive many dental associations of their present source of income. The Canadian Dental Association has therefore approved the establishment of an additional type of membership to accommodate provincial associations which may be forced to sever links with their licensing boards. This new voluntary individual conjoint membership would embrace local societies, the provincial association and the national association. Each would be a component of the other. "Dialogue" therefore sought comments on this important issue from two informed observers: Doctor G. F. Copithorne, past president of the College of Dental Surgeons of British Columbia, and Doctor Marcel Hébert, editor of Le Journal Dentaire du Québec. We also publish excerpts from a lengthy letter that was submitted spontaneously by Doctor J. Smits of Markdale, Ont.

Mandatory conjoint membership favoured for British Columbia

Recent studies initiated by the provincial governments of Ontario and Quebec have suggested definite changes in licensing dentists in these two provinces—namely, that the licensing body be completely divorced from the voluntary professional association.

For some time now the Canadian Dental Association has received its funds from the various provincial licensing authorities. With this new concept of provincial licensing, such funds will no longer be available to the CDA. A new concept of conjoint membership will therefore be created to support the national association effectively—support which it surely needs. In effect this means that a dentist may voluntarily join local, provincial and national bodies with one membership assessment.

This arrangement fulfils an obvious need in provinces affected by the implementation of these studies; but it would not be so applicable in others. For example, British Columbia, which unified its licensing body and voluntary association last year, has no provision in its dentistry act for allowing *voluntary* conjoint membership. Such is also the case in other provinces.

This points out why the CDA must remain flexible in its membership arrangement with the various provinces. A provincial professional organization may favour a particular arrangement but the provincial government may alter that concept without any regard for the profession's wishes.

Obviously argument has supported severance of the licensing of health professionals from all the other duties an association performs for its members. However, voluntary conjoint membership *does not* assure the ideal of a 100 per cent voice for the profession on matters of importance. This would be the most desirable support for a provincial body to have at national meetings. If all provincial bodies had such effective backing, the CDA would speak with most effective strength at the federal level. The ability to present proposals with the knowledge that they represent a

consensus of the total profession in all provinces would certainly be the ultimate achievement for the profession.

Mandatory conjoint membership more truly answers the needs of a professional association. It ensures maximum backing for local societies and their programs and encourages expanded thinking at that level. It permits the provincial association to speak with the strongest voice in its area of responsibility. The same effect would accrue at a national assembly where dentistry would speak out with one strong voice.

There may be much resistance to mandatory conjoint membership, but the philosophy of such a concept is hard to refute. When an individual assumes the mantle of a professional he assumes the moral, ethical and other responsibilities of the profession. One of these responsibilities, of course, is to support the professional association which works for the entire profession.

We are witnessing a continuing interest in providing expanded care for our population through the medium of the federal government. Exerting federal influence on provincial governments, by funding new health schemes, has proved to be a fairly effective way of instituting such programs. This cause and effect relationship is sufficient ground for having a well structured profession; conjoint membership, voluntary or mandatory (preferably the latter), is desirable for this reason alone.

Commissions are often struck to gather details before any new programs are initiated. It is here that well structured local, provincial and national dental organizations can be most influential. Effective communication between all levels of dentistry offers the greatest potential for producing sound information and developing firm positions on matters of contention.

Conjoint membership is not a new concept. But more than anything else, it fosters maximum utilization of organization, permits the ultimate in two-way communication and paves the way for continued and orderly growth of the profession.

*G. F. Copithorne, BA, DDS
124 East 15th St
North Vancouver, BC*

Voluntary conjoint membership may pose a problem in Quebec

I am informed that the Quebec law on professional syndicates does not permit a split in dues paid by a member. In other words, if the Quebec Dental Surgeons Association, incorporated under this law, was the collecting agent, it could not send a portion of the dues to another association. So that eliminates us as collecting agent for the Canadian Dental Association.

Furthermore, the Board of Administrators of the QDSA also informs me that all projects that involve the cooperation of our association and the College of Dental Surgeons of Quebec are being referred to a liaison committee for exploration.

Another factor that helps to complicate our picture is the Castonguay Report on Health Services which promises to review and scrutinize the role of all professional corporations in Quebec. A few feathers may be lost in the process.

It is further pointed out that the profession in Quebec needs all the money it can get. We are deeply involved in intricate negotiations with the government, and this is costly. The CDA should find a way to co-operate in these difficult times: spend in Quebec some of the money that Quebecers pour into its coffers.

The idea of voluntary membership is excellent, because an association that depends on this type of dues must be dynamic to survive. It is a forward step in the right direction.

*Marcel Hébert, DDS
1509 Sherbrooke St West
Montreal 110, Que*

An Ontario dentist prefers voluntary membership

Views on compulsory membership in our dental associations have been presented in the CDA Journal and other dental publications. According to one writer, "clearly you have to balance your civil rights against a strong association voice." I accept that call, and in the weighing I find the balance tips decidedly in favour of freedom and voluntarism.

It will be argued that the cost of membership on a voluntary basis imposes a greater hardship on those who join, and that non-members benefit indirectly from any association action. But should not those who want the association stand on their own legs? Are they all "freeloaders" that opt out? Is it not enough to enjoy the benefits obtained through membership, or must they also be denied to others? The Canadian Bill of Rights recognizes everyone's right to freedom of association and freedom of religion. Likewise, the United Nations' Universal Declaration of Human Rights proclaims that "everyone has the right to work" and that "no one may be compelled to belong to an association."

Voluntary membership may only attract 75 or 80 per cent of all potential members. There will also be those that just want to save money. But to give up our basic freedom is like selling our birthright for a mess of pottage.

Although labour laws, among others in Canada, violate both our Bill of Rights and the Universal Declaration of Human Rights, it is at least comforting to know that legislation is now proposed to rectify some of the injustices. It would therefore be foolish for Canadian dentistry to strive for compulsory membership and the check-off.

*J. Smits, DDS
Main St
Markdale, Ont*

Education Fund Benefits from CDA Presidential Election — The Canadian Society of Orthodontists chose an original and foresighted way of honouring

the election of its member, W. J. Spence, as president of the Canadian Dental Association by forwarding a contribution of \$100 to the Canadian Fund

for Dental Education. The CFDE trustees have expressed warm appreciation for this tangible endorsement of the Fund's programs.

The Association

President Spence advocates voluntary conjoint membership

CDA President W. J. Spence has urged individual dentists and their representatives from local, provincial and national bodies to study the setting up of a voluntary conjoint fee structure to ensure that both the provincial and national dental organizations be given sufficient resources to carry out existing functions and expand into other responsibilities demanded by members and society. He issued the call in recent addresses to dental meetings in Newfoundland, Nova Scotia and Quebec City.

"In Canada, historically, government has left each profession to govern its own members, as long as the public interest seemed protected. Recent thinking among governments, special commissions, the news media and the public generally has changed to strengthening protection of the public," the CDA president said.

"They say that private professional associations should not be financed by dues collected with licence fees which are in pursuit of the public interest. The possibility of a conflict of interest arises when one organization collects both."

Doctor Spence said this basic principle is found in the reports from the McRuer Commission on Civil Rights, the Ontario Committee on the Healing Arts, Quebec's Castonguay Commission and recent pronouncements of the Economic Council of Canada. He said: "The principle, if not most of the details of these reports, will likely become law within a few years. In essence the reports call for the severance of licensing bodies with associations—the governing bodies to remain mandatory in membership and the associations to become completely voluntary on an individual basis."

Doctor Spence pointed out that some health professions, such as physicians in Canada and the US and dentists below the border, have already been operating in this way for some time.

He said Canadian dentists have not been blind to these moves within the government and these professions. There are many dentists who resent

mandatory membership to an association as well as to the licensing body. They may like what an association has to offer, but they don't like anyone telling them that they must belong. Resentful dentists aren't likely to strengthen organized dentistry.

He continued: "These same people, if given a choice, would probably join the association. I don't think any dentist here is making that much money where he can afford not to participate in the various comprehensive benefits offered by the associations."

President Spence said a friendly divorce between the licensing bodies and the associations doesn't seem to be a contentious issue. It is most likely that dentistry will make this change without any further prompting from government. But he said this progressive move poses other vital problems: "The benefits of the voluntary associations would attract most dentists, but would they join a provincial association and also a national one? Would the national body compete with the provincial associations in fees and benefits? Who would speak for the dentists of Canada?"

Doctor Spence warned that separate membership in a provincial and national association would disrupt organized dentistry. The CDA had therefore approved individual voluntary conjoint type of memberships. This includes local societies, the provincial and the national associations. Each would be a component of the other. The national body had also invited corporate members to approve this principle and asked its Council on Constitution and By-laws to draft a by-law to accommodate both the existing and conjoint type of membership. This will be voted on at the organization's next annual meeting.

"The Canadian Dental Association is willing to accept the two types of membership in order to accommodate the different provincial requirements," said Doctor Spence.

"Instead of a heated rivalry between the provincial and national bodies, they should be working closely together like partners, operating practically as a harmonious unit in the interests of all Canadian dentists and all Canadians."

Doctor Spence explained to his audience that under such a system "there

would be no duplication of responsibilities and functions. The provincial associations would handle all duties under provincial jurisdiction, while the CDA would reflect the consensus of the provincial groups on matters transcending the provincial domain. The CDA would represent no hierarchy—only the collective views of most Canadian dentists."

Doctor Swanson named chairman of Hospital Services Council

CDA President W. J. Spence has announced the appointment of A. E. Swanson, Vancouver, as chairman of the Council on Hospital Services. Doctor Swanson replaces P. T. Smylski, Toronto, who was elected chairman at the Winnipeg national convention but subsequently resigned. Doctor Smylski continues as a member of the Council.



A. E. Swanson

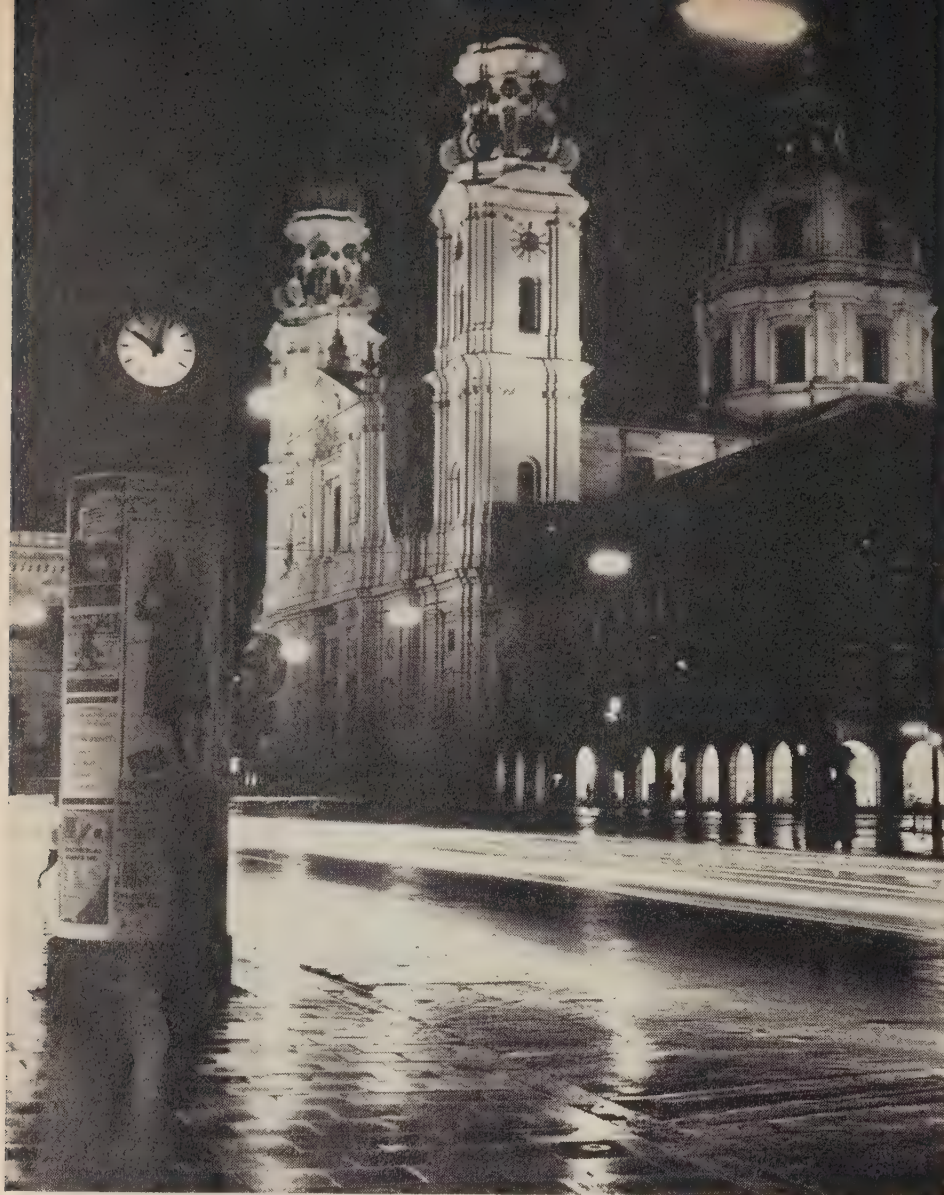
Doctor Swanson, a prominent Vancouver oral surgeon, is chairman of the Hospital Services Committee of the College of Dental Surgeons of British Columbia. He has also been a member of the CDA's Council on Hospital Services for some years.

Doctor Moore dies, noted dental leader

Stephen A. Moore of London, Ont, honorary member and past president of the Canadian Dental Association (1938-40), died on August 8. Doctor Moore, a former business manager of the CDA Journal, was also a past president of the London and District Dental Society and the Ontario Dental Association. He had also served as an adviser on dental clinics to the London Board of Education.

During World War I Doctor Moore was a sergeant in the Canadian Army Dental Corps (1917-19). He was appointed honorary colonel of the Royal Canadian Dental Corps in 1940 and also served on the Defence Medical and Dental Services Advisory Board at Ottawa.

A native of Belleville, Ont, he was a graduate of the Royal College of Dental Surgeons of Ontario in 1919. In 1920



Theatiner Church of St. Cajetan is a landmark in Munich, Germany, site of the 59th annual session of the *Fédération Dentaire Internationale*, June 16-22, 1971.

he graduated from the Dewey School of Orthodontics and practised this specialty in London until his retirement.

He is survived by his wife, Flora; a son, Dr. Stephen B.; two brothers, Dr. Stanley R. and Ernest; and a sister, Irene. Funeral services were held August 11 in London.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on August 31, 1970:

Fixed Income Fund \$10.411;

Common Stock Fund \$19.551.

Total assets (market value) of the plan were \$8,167,459.63.

The following portfolio purchases and sales occurred during the preceding month: bought 1,000 shares Common-

wealth Holiday Inns; 200,000 shares Imperial Oil Company Note; and 100 shares Boise Cascade Ltd; sold 5,000 shares Acklands Ltd and 4,000 shares Steel Co of Canada Ltd.

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA Retirement Savings Plan, offers two separate investment media: a fixed income fund and a common stock fund. Contributions may be allocated wholly or partly to the funds of the contributor's choice. Transfers between funds are allowed without penalty.

The fixed income fund, confined to guaranteed government bonds, other guaranteed fixed income securities, debentures, preferred shares and other fixed income securities, offers excellent income with maximum security. The

common stock fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

No charges or commissions are payable on joining or withdrawing from the plan.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

International Items

FDI meets in Munich in 1971

Headquarters for international dentistry will be in Munich when the *Fédération Dentaire Internationale* holds its 1971 annual meeting—the 59th—in Germany. The meeting is scheduled for June 16-22.

Opening ceremonies are scheduled for June 17 at the Bavarian Hall of the Munich Exhibition. The four day scientific program begins on June 18.

The comprehensive social program includes several receptions, theatre and concert performances, balls and Bavarian Evenings at the Löwenbräu.

For further information, write to the Secretary-General of the FDI, G. H. Leatherman, 64 Wimpole Street, London W1, England.

Tax on candy could pay for Britain's National Health Service

If the rate of tax on tooth paste and confectionery were reversed, candy sales could pay for the whole of the British National Health Service dental bill. This suggestion emerged from two reports published in Britain last August.

"The total amount of money spent on confectionery (in 1969) was £417 million," according to an article in the July edition of a British magazine, the *Wholesale Grocer*.

In a totally unrelated report put out by Britain's National Suggestions Centre, it was revealed that the purchase tax on candy is 22 per cent, while the rate for tooth paste is over 36 per cent.

D. R. Wright of Cadbury Ltd, a leading British confectionery firm, said that the £417 million spent last year on the confectionery market is more than is spent on soup, frozen food, canned fruits, breakfast cereals and coffee combined.

On the other hand, the National Suggestions Centre calls the government policy of taxing tooth paste more highly than candy an "inexcusable anomaly."

Assuming, therefore, that Mr. Wright is correct in claiming that candy is a "most profitable" line and "shows no

decline," altering the taxable rate for candy should not reduce the annual sales figure of £417 million for that commodity.

Reversing the candy and tooth paste tax would, therefore, raise revenue from candy to well over £100,000 a year, which would easily cover the annual NHS dental bill of about £85 million.

Canada and the Provinces

Ontario plan would reduce drug costs

The Ontario Department of Health has launched PARCOST, a program to help the public obtain prescribed pharmaceutical products of quality at reasonable cost.

Central to the plan is a Comparative Drug Index — a ready reference of comparable pharmaceutical products and relative prices. Using graphs to make comparison easy, it will display drugs under their brand and generic names as well as the cost per unit dosage of equivalent agents.

The first edition of the index lists over 400 preparations. All meet standards of quality set by a special committee established by the Ontario Health Department.

The list will make it easy for physicians and dentists to prescribe a drug for their patients in its least costly form. Participating pharmacists will sell these preparations at no more than the maximum allowable cost shown in the index, plus a \$2 charge for filling the prescription. The participating pharmacies will be identified by a distinctive red, black and gold symbol.

Dental Organizations

Noted endodontist to lecture in five cities Oct 31-Nov 7

Milton Siskin of the University of Tennessee will give lectures in five major centres across Canada during the Canadian Academy of Endodontics' second postgraduate lecture tour October 31 to November 7.

The internationally noted endodontist will review modern techniques of interest to all practising dentists, including replantation and transplantation of teeth, interceptive endodontics and paedodontic endodontics.

Doctor Siskin will be in Montreal October 31, Toronto November 2, Winnipeg November 4, Edmonton November 5, and Vancouver November 7.

Further details about each session may be obtained from local endodontic study clubs or from the tour co-ordinator: Isadore Wolch, 203 Edmonton St, Winnipeg 1, Man.

Public Health

Doctor Feasby heads Canadian Society of Public Health Dentists

R. E. Feasby, Toronto, senior dental consultant to the Ontario Department of Health, has been elected president of the Canadian Society of Public Health Dentists. He succeeds C. H. McCormick, Winnipeg. Paul Simard, Quebec City, is president-elect. J. M. Conchie, Surrey, BC, continues as secretary.



R. E. Feasby

Economics

Salaries proposed for Quebec physicians

Quebec's Castonguay Commission, which has been looking into health and welfare, has proposed that Quebec physicians be put on salary rather than paid fees for service.

A report, released September 3, says: "At present, a large part of the distribution of care is tied to the treatment of the active phase of illness. The mode of payment per service is the chief explanation of this. It favours certain specializations which, as a result, attract the largest number of doctors. Preventive and re-adaptation work are altogether neglected by this system."

In its first report, when present Quebec Health Minister Claude Castonguay was still chairman, the commission urged a combined salary and item method of payment. The report issued September 3 says: "The commission then saw a chance of attracting a large number of doctors, but also of favouring the development of real team medicine and evening out the incomes of various specialists."

The report does suggest a tryout for methods which fall between the service payment and the straight salary—payment according to the number of cases treated, for example. But it concludes that there should be a gradual move away from service payment to salaries.

"It seems to us that the advantages of salary—security, retirement, vacation, longer careers that are less hard on the man—compensate for the present advantages doctors have," it says.

US health insurance proposal covers children's dental care

Massachusetts Senator Edward M. Kennedy has introduced a national health insurance bill which includes comprehensive dental services for children and young adults. If the bill is enacted as drafted, health security benefits would commence on July 1, 1973.

Comprehensive dental services—excluding most orthodontic treatment—are covered for children under 15 years of age. However, the bill stipulates that the covered age group increases by two years each year until all those under age 25 are included. Dental benefits for older persons will be included when the availability of funds, facilities and personnel makes such a step possible.

Dental coverage includes services, materials and supplies which are normally furnished in a dentist's office without separate charge as part of professional care.

Preventive services including education in oral hygiene, diagnostic services, therapeutic services exclusive of orthodontic services other than for handicapping malocclusion, and services required for rehabilitation following injury, disability or disease would be included.

Research

Ottawa triples support for dental research

Ottawa is paying \$446,797 this year in support of various dental research projects, according to R. A. Connor, chief of the Dental Health Division, Department of National Health and Welfare. The 1970-71 allocation is more than three times the amount (\$137,980) spent in 1968-9. Expenditures in other years were \$40,000 in 1964-5 and \$265,769 in 1969-70.

This year's projects are aided through two categories of grants. One of these is the new "National Health Grant 1970-71" which pays \$13,000 toward the CDA Survey of Dental Practice, \$60,000 for a pilot study on dental auxiliaries, and \$13,000 for a study of the undergraduate dental curriculum, for a total of \$86,000.

Funded under "Dental Research" are 10 other projects worth \$262,845. They include two investigations in preventive dentistry (\$25,850), five epidemiological studies (\$117,996), one "operational project" (\$38,803) and two manpower (auxiliary) studies (\$80,196). The department also contributes \$87,800 toward four research positions in preventive dentistry.

Ottawa will shortly allocate a further \$10,152 toward a new study involving a community health centre, for a grand total of \$446,797.

Anaesthetic criticized for LSD-type effects

A major new anaesthetic has been criticized for causing LSD-type side effects, according to the *Wall Street Journal*.

The drug, ketamine, was approved by the US Food and Drug Administration in April after being tested on almost 11,000 patients.

Parke-Davis, which holds the patent on ketamine, markets it under the trade name Ketalar. Bristol-Meyers Company of New York sells the drug under the name Ketaject.

According to the WSJ report, the drug is unusual because it acts by producing sensory dissociation. Patients appear to be in a trance and unaware of painful stimuli while their eyes are open.

In some cases, patients emerge from the anaesthesia with nightmares or delirium, according to the *Wall Street Journal*. A graduate student from Florida, who had three impacted wisdom teeth removed under anaesthesia provided by ketamine, said she was severe-

ly depressed for weeks after the experience, the WSJ article continued.

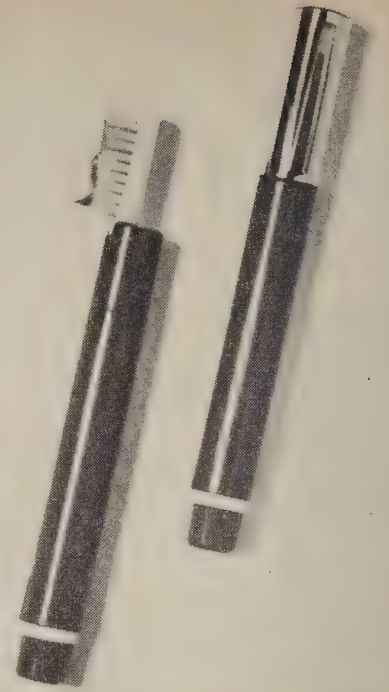
The drug, which may be injected intramuscularly or intravenously, is non-narcotic, fast-acting and is unlikely to interfere with a patient's breathing. It can be used for short as well as longer surgical procedures.

Introduce fountain toothbrush

Campers, yachting enthusiasts, fishermen and travellers will soon be able to purchase a compact toothbrush-tooth paste unit shaped like a fountain pen.

The fountain toothbrush, developed by Turner Plastronics of Newport, Arkansas, stores enough dentifrice for 18 brushings. A slight turn of the dispenser emits sufficient tooth paste onto the bristles for one brushing. Both brush and paste are easily replaceable.

The unit is small enough to be carried in a handbag or clipped onto a shirt pocket.



Fountain toothbrush

Dental Education

Doctor Ambrose succeeds James McCutcheon as dean at McGill

Ernest R. Ambrose has been appointed dean of the Faculty of Dentistry, McGill University, Montreal. He succeeds James McCutcheon who relinquished the post June 30 to accept a similar appointment at the University of Alberta.

Doctor Ambrose graduated from McGill in 1950 and practised in Montreal

until 1958 when he assumed teaching duties at McGill.

Prior to his appointment as dean, Doctor Ambrose was chairman of the Department of Operative Dentistry, associate professor of clinical dentistry, co-ordinator of teaching clinics, and director of the Division of Preventive and Restorative Dentistry, McGill University. He was also associate dental surgeon at the Montreal General Hospital.

Doctor Cox dies, preventive dentistry leader

Armecost Cox, MD, 77, nationally known as a leader in preventive dentistry, died in Toronto August 25. Doctor Cox was professor emeritus at the Faculty of Dentistry of the University of Toronto.

Born in Chicago, he graduated from Toronto's Faculty of Medicine in 1918. He joined the dental school in 1924, teaching paediatrics and preventive dentistry. In 1946 Doctor Cox became professor of preventive dentistry.

Doctor Cox was also closely associated with Toronto's Hospital for Sick Children where he served at one time as physician in charge of the outpatient department. In 1956 he was named chairman of the hospital's cleft palate rehabilitation and research committee.

Though he retired from the Faculty of Dentistry in 1960, Doctor Cox continued his association with dental education as a graduate lecturer in paediatrics until June of this year.

The Ontario Dental Association honoured him with a life membership in 1963.



E. R. Ambrose

Deaths

Campbell, Reginald Hector Maurice. 74. Lakefield, Ont. Royal College of Dental Surgeons of Ontario, 1924. 13-8-70. Survived by May Lee (wife) and Colin (son).

Gerolamy, Sinclair Ben. 46. Edmonton, Alta. University of Alberta, 1950. 8-8-70. Survived by Joanne (wife); John (son); Sandra and Barbara (daughters); Mr. John Gerolamy (father); Bruce (brother); and Mrs. Erma Larter (sister).

Hobden, Alan Edward. 61. Toronto. University of Toronto, 1933. 12-8-70. Survived by Lyall Hartman (wife); Dorothy (sister); and Bertram (brother).

Lippert, James Fergusson. Toronto. Royal College of Dental Surgeons of Ontario, 1922. 8-8-70. Survived by Mrs. J. Davis (sister); and Stewart (brother).

Moore, Stephen A. 77. London, Ont. Royal College of Dental Surgeons of Ontario, 1919. 8-8-70. Survived by Flora E. McRae (wife); Dr. Stephen B. (son); Stanley and Ernest (brothers); and Irene (sister).

Stewart, John Smith. 93. Lethbridge, Alta. Royal College of Dental Surgeons of Ontario, 1903. 14-8-70. Survived by Ella (wife).

Les actualités dentaires

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 août 1970:

Fonds à revenu fixe \$10.411;

Fonds d'actions ordinaires \$19.551.

L'avoir total (valeur marchande) du régime se montait à \$8,167,459.63.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat, 1,000 actions de Commonwealth Holiday Inns; 200,000 actions de Imperial Oil Company Note; et 100 actions de Boise Cascade Ltd; vente 5,000 actions de Acklands Ltd et 4,000 actions de Steel Co of Canada Ltd.

Le paragraphe 79B de la loi régissant l'impôt sur le revenu autorise des contributions non imposables à un programme de retraite personnelle, représentant jusqu'à 20 p.c. du revenu, avec un maximum de \$2,500.

La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC offre deux sortes de placements distincts: un fonds à revenu fixe et un fonds d'actions ordinaires. Les contributions peuvent être faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

Le fonds à revenu fixe, qui se compose de bons du trésor, d'obligations, d'actions privilégiées et d'autres sécurités à revenu fixe, offre un très bon revenu avec un risque très faible. Le fonds d'actions ordinaires, qui se compose d'actions ordinaires canadiennes, américaines et étrangères soigneusement choisies, a comme objectif principal l'augmentation du capital.

L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto 180, Ont.

Les organismes dentaires

Le Collège du Québec annonce son programme d'éducation permanente

D'après un programme adopté récemment, le Collège des Chirugiens-Den-

tistes de la Province de Québec offrira aux dentistes québécois un choix entre trois méthodes pour perfectionner leurs connaissances cliniques et leur compétence professionnelle. Les trois méthodes sont les suivantes:

- un programme intensifié de cours d'éducation permanente d'une durée de deux à trois jours donnés dans les facultés dentaires provinciales;

- une augmentation des subsides accordés aux organisations dentaires provinciales pour des présentations scientifiques; et

- l'initiation de réunions d'une durée d'une journée pour de petits groupes allant de quatre à douze dentistes qui seront instruits par des démonstrateurs spécialement formés. Ces réunions, les premières de leur genre au Québec, commenceront au mois de septembre. Elles auront lieu dans la résidence d'un dentiste ou autre endroit approprié.

Le Dr Paul Dionne, de Joliette, président du Comité de l'éducation permanente du CCDPQ espère intéresser 200 dentistes dans la seule période de 1970-71 en organisant 10 petits groupes à Montréal et un même nombre dans d'autres parties de la province.

L'Académie de pédodontie sollicite de nouveaux membres

Tout pédodontiste reconnu par son association dentaire provinciale et tout dentiste qualifié par des études graduées est éligible de devenir membre de l'Académie canadienne de pédodontie. Pour recevoir les formules d'inscription veuillez s'adresser au Dr R. S. Margolis, 8223 - 105 St, Suite 301, Edmonton, Alta.

Conférences du Dr Siskin dans cinq villes canadiennes

Le Dr Milton Siskin, de l'Université du Tennessee, sera le conférencier invité lors de la deuxième tournée de conférences post-graduées de l'Académie canadienne d'endodontie. Il présentera des conférences dans cinq grandes villes à travers le Canada du 31 octobre au 7 novembre.

Un endodontiste de réputation mondiale, le Dr Siskin examinera les techniques modernes qui intéressent tous les praticiens, y compris la réimplanta-

tion et la transplantation dentaire, l'endodontie modificatrice prophylactique et l'endodontie en pédodontie.

Le Dr Siskin sera à Montréal le 31 octobre; à Toronto le 2 novembre; à Winnipeg le 4 novembre; à Edmonton le 5 novembre et à Vancouver le 7 novembre.

Pour plus amples renseignements sur chaque assemblée, veuillez s'adresser aux associations locales d'endodontie ou au coordinateur de tournée: Isadore Wolch, 203 Edmonton St, Winnipeg 1, Man.

Chronique internationale

Journées françaises de parodontologie

Les Journées françaises de parodontologie organisées par l'ARPA française et le Cercle de Parodontie auront lieu du 27 au 29 novembre à Paris. Voici l'avant - programme:

Recherche et prophylaxie - vendredi 27 novembre 1970:

Matinée: Conférence du Professeur R. Weill, Directeur de l'Ecole Nationale de Chirurgie Dentaire de Paris.

Après-midi: Conclusions du Symposium européen sur la prévention des parodontopathies, B. Wade et D. C. Picton de l'Université de Londres.

Chirurgie parodontale - samedi 28 novembre 1970:

Matinée: Présentation de films.

Après-midi: Evolution des techniques de chirurgie parodontale, avec A. Chabut (Paris), G. Fiore-Donno et M. Spiggi (Genève), P. H. Guldener (Berne) et J. F. Tecucianu (Boston).

Occlusodontie - dimanche 29 novembre 1970:

Matinée et après-midi: Table ronde sur le thème: la mastication, avec H. Graf (Zurich), W. G. Krogh Poulsen (Copenhague), P. Sharer (Berne) et L. Lauritzen (Seattle).

Inscriptions: Journées françaises de parodontologie, 37 rue de Rome, Paris 8^e, France, accompagnées d'un versement de 200 F.

Réunion les 3-5 novembre de l'Académie de prothèse maxillo-faciale

Jacques Valiquette, professeur assistant à l'Université de Montréal, est l'un des conférenciers invités à la 18^e réunion annuelle de l'Académie américaine de prothèse maxillo-faciale qui aura lieu du 3 au 5 novembre à l'Hôtel Desert Inn, à Las Vegas, au Nevada. Sa communication traitera des "Appareils pour

traitements de radiation" que le dentiste peut fabriquer afin d'améliorer ou d'éliminer quelque-uns des problèmes que crée la thérapie à la radiation des patients atteints du cancer buccal.

Des renseignements supplémentaires peuvent être obtenus en s'adressant à Victor Matalon, Room P-723, 1700 Holcombe Blvd, Houston, Texas 77025, USA.

tre, concerts, bals et soirées bavaroises au Löwenbräu.

Pour tous renseignements, écrire à G. H. Leatherman, Secrétaire général de la FDI, 64 Wimpole St, Londres W1, Grande-Bretagne.

Avant d'être nommé doyen, le Dr Ambrose avait déjà été Chef du Département de dentisterie opératoire, professeur assistant de dentisterie clinique, coordinateur des cliniques d'enseignement et directeur de la Division de dentisterie préventive et restauratrice de l'Université McGill. Il a également servi comme chirurgien-dentiste associé au Montreal General Hospital.

L'enseignement dentaire

Chronique internationale

La FDI se réunira à Munich en 1971

Les prochaines assises de la Fédération Dentaire Internationale auront lieu en Allemagne. C'est à Munich que cet organisme tiendra sa 59^e assemblée annuelle, du 16 au 22 juin 1971.

Les cérémonies d'inauguration sont prévues pour le 17 juin au Pavillon bavarois de la Foire de Munich. Le programme scientifique durera quatre jours à partir du 18 juin.

Un programme récréatif très complet prévoit des réceptions, pièces de théâtre,

Le Dr Ambrose succède au Dr James McCutcheon au poste de doyen à l'Université McGill

Le Dr Ernest R. Ambrose a été nommé doyen de la faculté dentaire de l'Université McGill à Montréal. Il succède au Dr James McCutcheon qui avait démissionné le 30 juin dernier pour occuper le même poste à l'Université de l'Alberta.

Le Dr Ambrose a obtenu son diplôme de l'Université McGill en 1950 et il a exercé jusqu'en 1958 à Montréal pour ensuite entrer dans l'enseignement à McGill.

L'hygiène publique

Le Dr Feasby devient président de la Société canadienne d'hygiène dentaire publique

Le Dr R. E. Feasby, de Toronto, dentiste consultant auprès du ministère de la Santé de l'Ontario, a été élu président de la Société canadienne d'hygiène dentaire publique. Il succède au Dr C. H. McCormick, de Winnipeg. Le Dr Paul Simard, de Québec, est président désigné. J. M. Conchie, de Surrey, C.-B., retient la fonction de secrétaire.

La fluoration

Les déclarations de Ralph Nader sur le fluor sont mises en doute

Selon le Service de l'hygiène publique des USA, les nombreux écrits traitant de la fluoration des eaux concourent à prouver que cette méthode est une "mesure d'hygiène publique sûre et efficace".

Dans son communiqué, le Service de l'hygiène publique a répondu aux déclarations énoncées par M. Ralph Nader, expert à la consommation, dans lesquelles celui-ci avait allégué un effet cumulatif du fluor dans l'air, l'eau et les aliments. Le communiqué a fait ressortir le fait que la forte accumulation de renseignements sur la fluoration des services d'eau et sur les fluorures augmente continuellement et renforce le bien-fondé de l'appui à la fluoration des services d'eau de consommation comme étant une mesure d'hygiène publique sûre et efficace.



Munich: la Marienplatz avec l'hôtel de ville et la cathédrale. La Fédération Dentaire Internationale y tiendra sa 59^e assemblée annuelle. La réunion est prévue du 16 au 22 juin 1971.

The free gingival graft: where and how to use it

C. G. Ibbott, BSc, DMD
Regina

In recent years mucogingival surgery has been enhanced by the introduction of the free soft tissue autograft. Palatal mucosa is commonly used as the donor tissue. It can be removed easily and transposed to any part of the mouth where gingiva is needed. These grafts are used to increase the width of the gingiva, deepen the vestibule and, on occasion, cover denuded roots. This article describes the operation.

Au cours des dernières années, la chirurgie mucogingivale s'est enrichie des autogreffes libres du tissu mou. Le tissu donneur ordinairement employé est la muqueuse palatine qui peut être facilement prélevée et transposée dans toute autre partie de la bouche où il y a besoin de tissu gingival. Les greffes servent à élargir la gencive, à approfondir le vestibule de la bouche et, parfois, à recouvrir des racines dénudées. L'article décrit ici le déroulement de l'opération.

The autogenous free gingival graft is a valuable addition to mucogingival surgery. It is often the treatment of choice for a mucogingival problem in an isolated area. This paper describes the applications and procedure for this operation. The clinical results reported are based on experience with 25 cases. None of these has been followed postoperatively for more than 10 months.

Indications

These grafts can increase the zone of attached gingiva about teeth surrounded by thin friable tissue. They are also used around teeth and adjacent areas that lack attached tissue and where pockets extend to the alveolar mucosa. In these circumstances we cannot use split thickness apically repositioned flaps or double papillary flap procedures.

Free gingival grafts can also deepen the vestibule when lack or friability of adjacent tissue contra-indicates a split thickness apically repositioned flap procedure.

Areas of recession (denuded root surfaces) can sometimes be covered where there is insufficient donor tissue for a laterally repositioned flap or a double papillary procedure.

Fig 1 Lower right cuspid and first bicuspid with deficient attached gingiva and pockets extending to the mucogingival line.

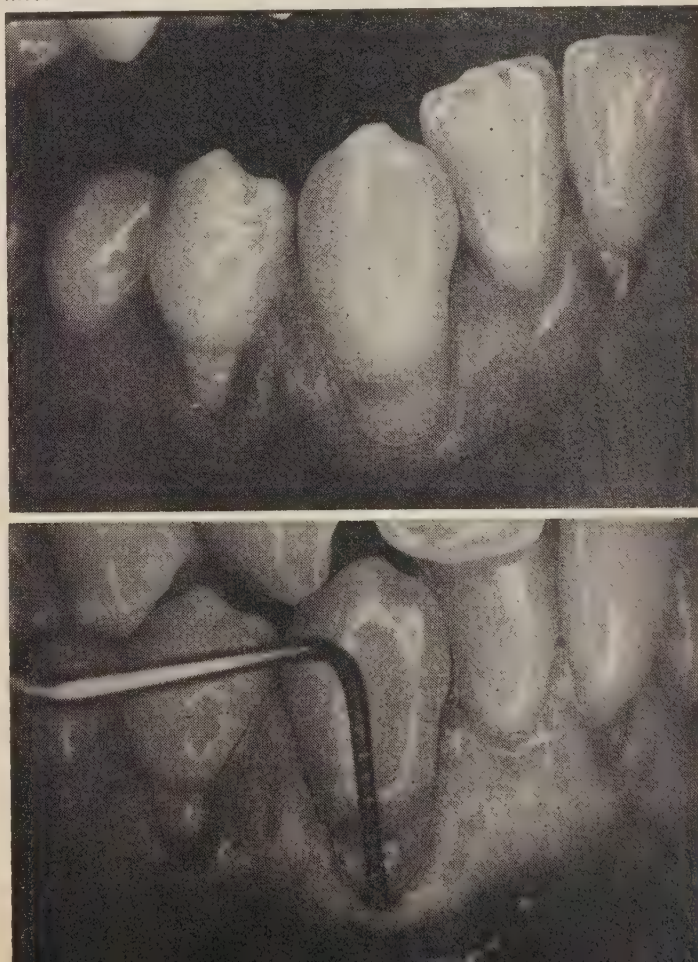




Fig 2 Receptor site after excision of a split thickness flap.



Fig 3 Receptor site after excision of muscle fibres and connective tissue.

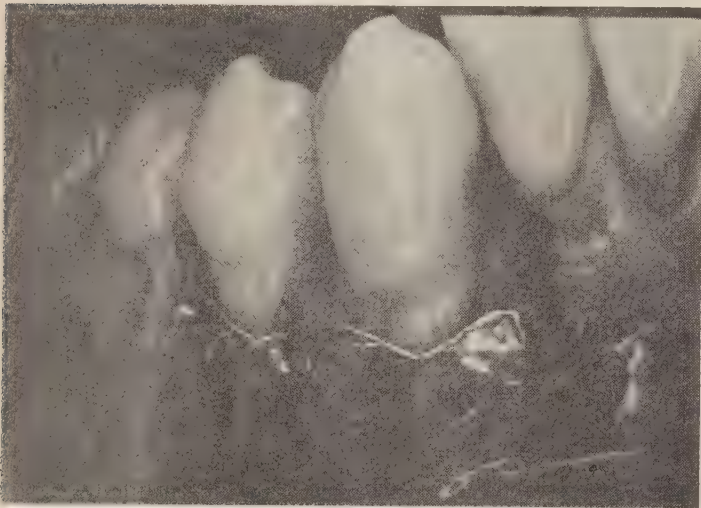


Fig 4 Top picture: foil template over the receptor site. Lower picture: template adapted to the palatal donor site.

Technique

Infiltration anaesthesia is recommended. Using a Kirkland knife, a gingivectomy is first performed at the receptor site (Fig 1). Lateral incisions are made and a split thickness flap is reflected to the depth of the vestibule with a No 15 Bard Parker blade. The flap is then trimmed off with scissors and discarded (Fig 2).

All muscle fibres and connective tissue over the receptor site must be removed with scissors and tissue nippers.¹ Muscle fibres may be separated by blunt dissection with a Kirkland knife (Fig 3). Bleeding may be controlled with 2 x 2 inch sponges moistened in warm saline.

Next, a foil template is made of the receptor bed (Fig 4). The template is then transferred to the palatal donor site. Labial attached gingiva or tissue from an edentulous area may be used, but palatal tissue is preferable for the graft. It is also important to avoid glandular or fatty areas.¹

A wedge type incision is made around the template and one end is undermined. The freed tissue is thread-



Fig 5 Graft sutured to place over the receptor site.



Fig 6 Receptor (left) and donor (right) sites one week after placement of the graft.

ed with a suture to facilitate minimal handling after separation. The graft must be kept thin.

After separation, the graft is moved to the receptor site. Using 6-0 ophthalmic suture, it is sutured firmly to place with as little manipulation as possible (Fig 5). The receptor and donor sites are dressed with periodontal pack for one week (Fig 6). The sutures are then removed and the receptor area is repacked for three further consecutive weeks (Fig 7).

Discussion

The graft epithelium disintegrates during the initial phase of healing. Within two weeks, however, there is a re-epithelialization by migration of new epithelium from adjacent tissue and from basal cells which persist from the graft.²

Clinical impressions indicate that a relatively thin graft will blend with adjacent tissue; thick grafts invariably produce a bulky result as in the lower left cuspid area of Figure 8.



Fig 7 Appearance of the graft after three months.

Fig 9 Inadequate excision of muscle fibres produces useless mobile grafts.

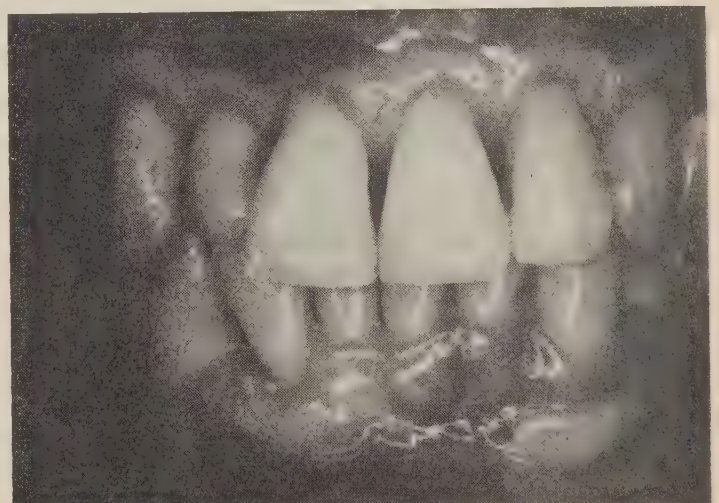


Fig 8 A thick graft leaves a bulky mass as seen in the lower left cuspid region.

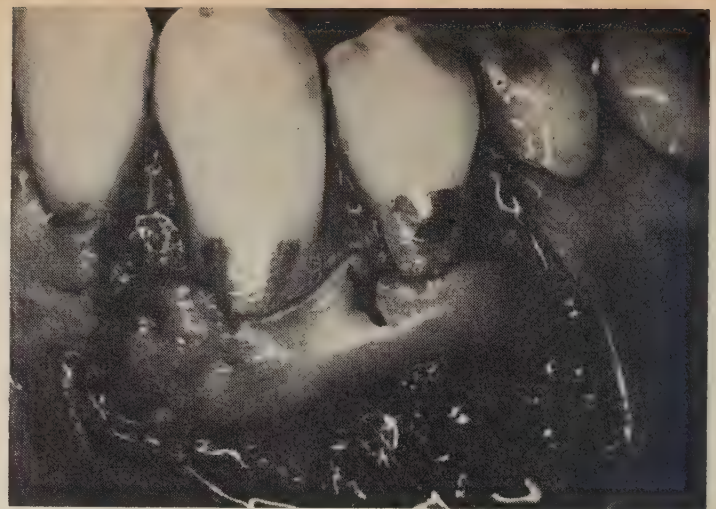


Fig 10 Tissue grafted onto improperly prepared and bleeding sites will break down.



All muscle fibres must be completely removed; otherwise the graft will not be fixed and becomes functionally useless (Fig 9).

Figure 10 shows a graft placed over an improperly prepared and bleeding receptor site. This will break down and slough.

Kirkland, Coe and PCP periodontal packs give equally good results. But covering the graft with dry foil or rubber dam does not improve the results.

Fig 11 Grafting over denuded root surfaces gives unpredictable results. The graft usually adheres to the bed area but dies over the avascular root area.

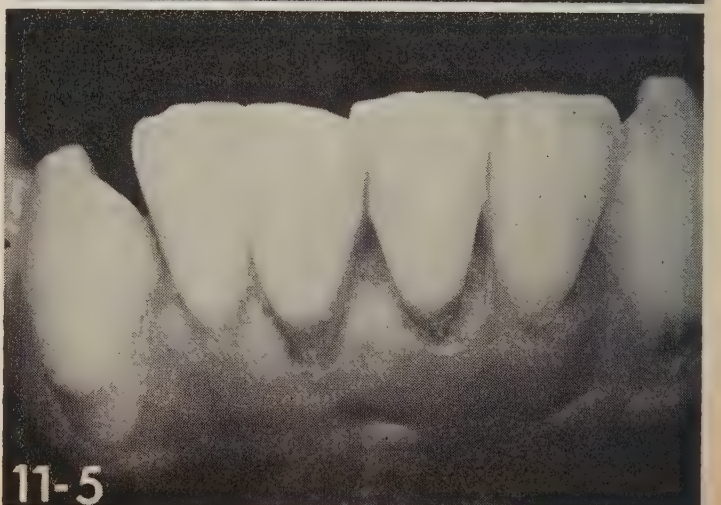




Fig 12 Grafts over root surfaces sometimes result in tightly adapted but unattached tissue.

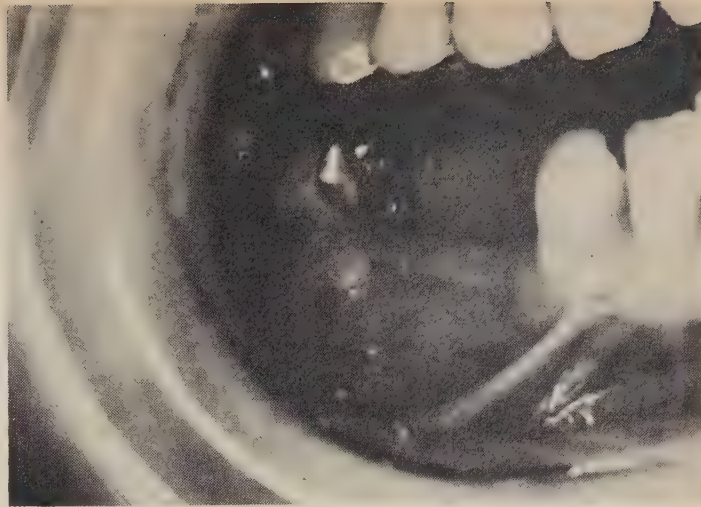


Fig 13 Labial tissue used for this graft served to increase the zone of attached gingiva. (Courtesy of R. Pyne.)

Antibiotics are totally unnecessary after this procedure.

Covering a denuded root surface is unpredictable although most attempts to increase the amount of attached gingiva have been successful. The graft adhered to the bed area in every case, but invariably died over the avascular root area (Fig 11). Sometimes the root would be covered by tightly adapted tissue (Fig 12).

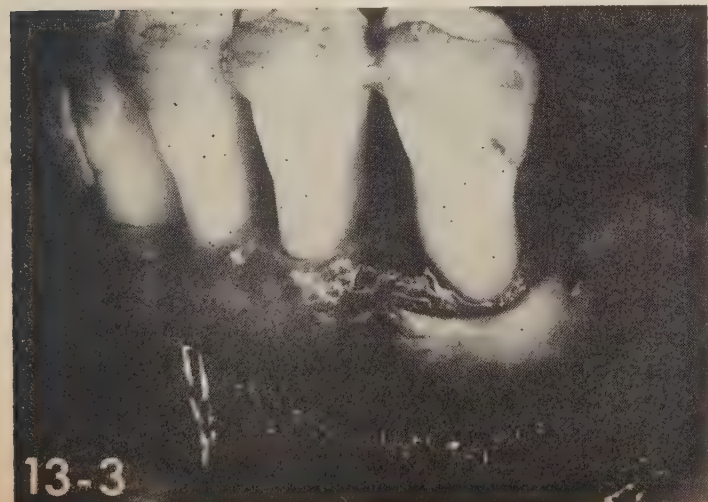
Figure 13 illustrates a successful graft using labial tissue to increase the zone of attached gingiva.

Conclusions

Clinically, the free graft heals quickly with little discomfort. It also seems to maintain increased vestibular depth better than other procedures used in similar localized problems. The operation is fast, easy, and does not cause any particular difficulties even though two operative sites are used.

Doctor Ibbott is affiliated as a part-time teacher with the Faculty of Dentistry, University of Manitoba. His address is: 216 Medical and Dental Building, Regina, Sask.

- 1 Sullivan, H. C. and Atkins, J. H. Free autogenous gingival grafts. 1. Principles of successful grafting. *Periodontics* 6:5, 1968.
- 2 Gordon, H. P., Sullivan, H. C. and Atkins, J. H. Free autogenous gingival grafts. II. Supplemental findings—histology of the graft site. *Periodontics* 6:130, 1968.



Alberta's x-ray protection program: Results of a survey of one hundred dental x-ray units

J. M. Wetherill, CSI(C)
Edmonton

Two-thirds of 100 dental x-ray units recently surveyed in Alberta fell short of the minimum radiation protection standards outlined in Canadian safety codes. Using high-speed film, the patient's skin dose per exposure averaged 350 mR where the target-skin distance, collimation, filtration and processing were adequate. This value quadrupled where one or more of the main items examined were inadequate.

Sur 100 appareils de radiographie examinés récemment en Alberta deux tiers n'étaient pas conformes aux règles de protection minimale contre la radiation telles que définies par les codes de sécurité canadiens. L'emploi d'un film ultra-rapide donnait lieu à une dose moyenne de 350 mR par exposition sur la peau du patient lorsque la distance anticathode-peau, la collimation, la filtration et le développement étaient satisfaisants. Mais cette dose quadruplait lorsque l'un ou plusieurs des principaux facteurs examinés étaient inadéquats.

In 1963 a National Advisory Committee on the Development of X-ray Safety Standards was formed to study the formulation of x-ray safety standards. Later that year the committee submitted recommendations to the Dominion Council of Health dealing with the registration of x-ray equipment, use of monitoring devices, inspection, safety standards, training and medical surveillance. These were subsequently adopted by the Council.

As a result, the Division of Industrial Health Services of the Alberta Department of Health established an x-ray protection service in 1967. The following year all owners of dental x-ray units in the province were invited to register their equipment voluntarily. They were also encouraged to use the inspection service offered.

To ensure even greater use of the service, findings from the inspection of the first 100 dental radiography units, approximately one-fifth of those in the province, are described in this report.

Survey standards and reporting procedures

The survey standards are based on recommendations contained in the safety codes relating to medical and dental x-ray equipment issued by the Radiation Protection Division, Ottawa.^{1, 2} The survey procedure is similar to that established by the US Public Health Service.³ The main items checked are:

Equipment

1. Exposure timer accuracy and switch efficiency for terminating exposure both at the conclusion of the set time and earlier if necessary.

2. Target to skin distance of at least seven inches.

3. Collimation to reduce the primary beam at tip of pointer cone to a diameter of 2.75 inches for routine examinations.

4. Filtration in the primary beam of at least 1.5 mm of aluminum or equivalent for equipment operating up to 70 kVp, and 2.5 mm for equipment in excess of 70 kVp.

5. Tube head stability and electrical grounding.

Films and processing

1. Ultra-fast film in use.
2. Light-tight darkroom equipped with suitable safe-light at proper distance from working area.
3. Presence of thermometer and timer and observance of processing technique recommended by the film manufacturer.

Patient protection

1. Use of a lead protective apron and suitable film holding device where necessary.

Operator protection

1. Use of film monitors.
2. Exposure switch cord at least nine feet long so that existing walls may be used for protection from scattered radiation.

We assembled a survey kit consisting of portable x-ray monitoring instruments; a plastic bottle scatter phantom, to determine scatter radiation measurements; a stopwatch, to check mechanical timer accuracy; aperture gauge and fluorescent screen, to assess the adequacy of the primary beam collimation; micrometer and standard thickness aluminum filters, to measure filtration; electrical grounding tester, bagged lead shot, and a lead protective apron.

We also prepared a standard form letter and a set of model paragraphs covering the commoner faults and these were used to report the findings to the equipment owners. A tabulation of radiation scatter measurements, together with the extracts from the safety codes relating to dental x-ray equipment and procedures, accompanied the letter.

Primary beam doserates are measured using an ionization chamber which is calibrated against a sub-standard chamber available in Edmonton, but for medico-legal reasons these measurements are not formally reported to users. A Cutie-Pie type of survey meter is used for scatter and leakage radiation measurements.

Operators are encouraged to use the Radiation Protection Division's film monitors and a descriptive pamphlet and application form are distributed where the service is not used.

Collimators and filtration are distributed where necessary. The US Public Health Service lent the department a set of dies, enabling us to produce these items.

We found that after a little experience one x-ray unit can be surveyed in about 30 minutes, although the

Types of dental x-ray units surveyed		Table 1
Manufacturer	Number	
General Electric	26	
Machlett (adapted)	1	
Morita	1	
Philips	3	
Ritter	47	
Siemens	11	
Weber	5	
XRM	6	

Age of dental x-ray units surveyed		Table 2
Years	Number	
1-5	34	
6-10	19	
11-15	13	
16-20	22	
21-25	9	
Over 25	3	

Results from inspections of 100 dental x-ray units		Table 3
Deficiency	Number of Units	
Inadequate collimation	25	
Exposure cord too short	25	
Insufficient filtration	23	
Target-skin distance less than 7 inches	14	
Timer not deadman	11	
Equipment not grounded	10	
Tube head unstable	6	
Timer not terminating at elapse of set time	1	

most useful visits, where the operators are interested in the procedure and results, take somewhat longer.

Results of the survey

One hundred dental radiographic machines were examined by the end of September 1969. These were installed in 75 separate dental offices: 58 in Calgary or Edmonton, the remainder in smaller communities.

Tables 1 and 2 summarize the types and age of the x-ray units encountered.

Thirty-five of the machines examined met the recommended basic safety requirements. Table 3 details the major equipment deficiencies. Suitable collimation and filtration were provided for all units found deficient in these items. Ungrounded equipment was brought to the attention of the appropriate electrical protection agency who ensured compliance with the Canadian Electrical Code.

Table 4 lists the main inadequacies at the 75 installations visited.

Sixty-five of the offices used the ultra-fast type of dental film. Film manufacturers' processing data and safe-light information were distributed where needed. The fastest film development time recorded was five seconds.

Fluoroscopic devices were present at three offices

Results from inspections of 75 dental offices		Table 4
Inadequacy	Number of offices	
Darkroom not light-tight	55	
No thermometer present	44	
No patient protective apron	37	
Films held by patients' fingers	11	
Film development less than 1½ minutes	11	
Timer not used for processing	6	
Operator regularly holding films in patients' mouths	2	

**Effect of pointer cone type
on patient skin dose**

Table 5

Type of cone	Primary beam skin dose per exposure
Short pointed	156 mR
Short open	126 mR
Long open	96 mR

although this method of examination did not appear to have been used for many years.

On two occasions questioning revealed that the operator routinely held films in patients' mouths, in each case exposing fingers to approximately 5,000 mR weekly. One operator exhibited slight radiation damage to the fingers of one hand.

The opportunity was occasionally taken to make comparative primary beam measurements and the results of two of these, used as typical examples during the surveys, are detailed.

Table 5 shows the effect of three types of pointer cones on patient skin dose in the primary beam. The dentist had used each type, attached to the same x-ray unit, and the techniques used for the measurements were those stated to produce a radiograph of optimum acceptability in each case. Ultra-fast film and proper processing techniques were used.

Table 6 shows how additional recommended filtration influenced the patient skin dose when ultra-fast and medium-speed film were used. Processing methods were optimum.

The average patient skin dose per exposure was measured to obtain an index of the general radiation safety of each unit. Measurements were made in the primary beam at the tip of the pointer cone, using the stated average operating technique of the dentist.

This averaged 350 mR for the 35 units where the target-skin distance, collimation, filtration and processing were adequate, and high-speed film was in use. Where one or more of these items did not meet the minimum recommended standard the average dose was 1,210 mR. The overall average was 920 mR. The lowest recorded dose per radiograph was 96 mR and the highest was 6,250 mR. (It should be emphasized that these are dose measurements made in the primary beam at the end of the pointer cone. The gonadal dose—that is, the genetically significant dose—arising from dental radiography has been estimated to be between 1/10,000th and 1/1,000th of the skin dose.^{4, 5})

Two of the x-ray rooms had lead shielding in the walls and one of these contained a skull unit in addition to a dental radiographic machine. In all of the other rooms examined it would have been possible to use existing walls or partitions as a barrier for scattered radiation from the patient, had the exposure switch cord of the unit been the minimum recommended length of nine feet. It was found that the average wall, consisting of two thicknesses of plaster-board, reduced the scatter radiation measurements by a factor of approximately 15.

**Effect of filtration and
film speed on patient skin dose**

Table 6

Filtration	Primary beam skin dose per exposure	
	Medium speed film	Ultra-fast speed film
Inherent only (about 0.5 mm of aluminum equivalent)	6,250 mR	1,600 mR
1 mm aluminum added, plus inherent	2,500 mR	650 mR

Summary

An x-ray protection program was established by the Alberta Department of Health in 1967 as a result of recommendations adopted by the Dominion Council of Health.

An initial survey of 100 dental x-ray units revealed that 65 per cent did not meet the minimum radiation protection standards detailed in the Canadian safety codes.

Where equipment was satisfactory and ultra-fast film and adequate processing were used the average dose at the end of the pointer device in the primary beam was 350 mR per exposure. Where one or more of the main items examined were inadequate the average dose at the end of the pointer device in the primary beam was 1,210 mR.

The author expresses appreciation to Mr. P. J. Barrett, radiation health officer, who carried out many of the surveys represented in this report, and to Doctor H. R. MacLean, former dean of the Faculty of Dentistry, University of Alberta, and Doctor C. R. May, medical director, Division of Industrial Health Services, Alberta Department of Health, who reviewed the manuscript.

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Diagnosis and surgical management of coronoid process hyperplasia: Report of case

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Though coronoid process hyperplasia progresses quite slowly, it can ultimately restrict mandibular movement so that the patient may be unable to masticate or speak properly. The usual treatment consists of surgical excision via an intra-oral approach. In this case Doctor Hurd used a submandibular approach because the patient's temporomandibular joint was suspect and might have required joint surgery.

Bien que l'hyperplasie de l'apophyse coronoïde ne progresse que lentement, elle peut finalement réduire le mouvement mandibulaire à tel point que le patient pourrait être incapable de mâcher ou de parler correctement. Le traitement classique consiste en une excision chirurgicale par voie intra-buccale. Dans le cas décrit, le Dr Hurd a utilisé la voie submandibulaire parce que l'articulation temporo-mandibulaire du patient était suspecte et aurait pu nécessiter une intervention chirurgicale.

Abnormalities of the coronoid process may arise from trauma, developmental hyperplasia, exostoses, osteomas and osteochondromas.¹ These aberrations can inhibit mandibular movement, thereby inducing physical and psychological deterioration. The patient is frequently unable to masticate except by means of the most primitive hinge-like movement. Minor speech impediments may be present because of impaired movements essential to proper articulation.

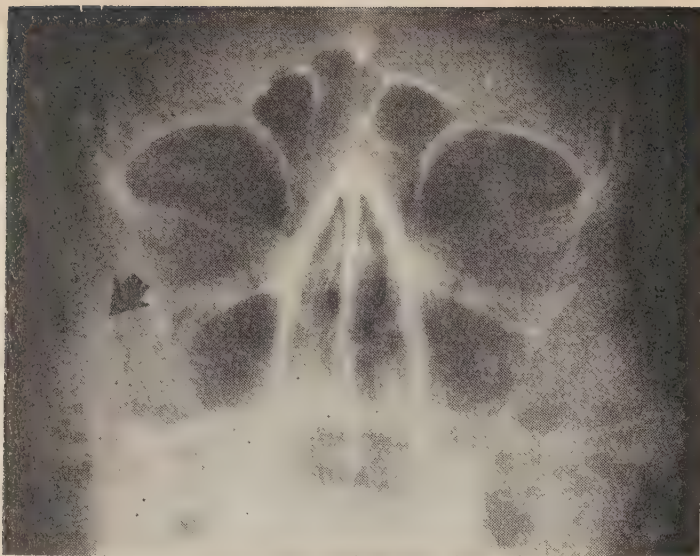
Mandibular coronoid hyperplasia, though uncommon, is by no means rare. The diagnosis is often obscure; once it is established, however, the surgical treatment is usually uncomplicated and gratifying. The following report of unilateral coronoid hyperplasia with severe limitation of mandibular movement illustrates the effectiveness of surgical intervention.

Case report

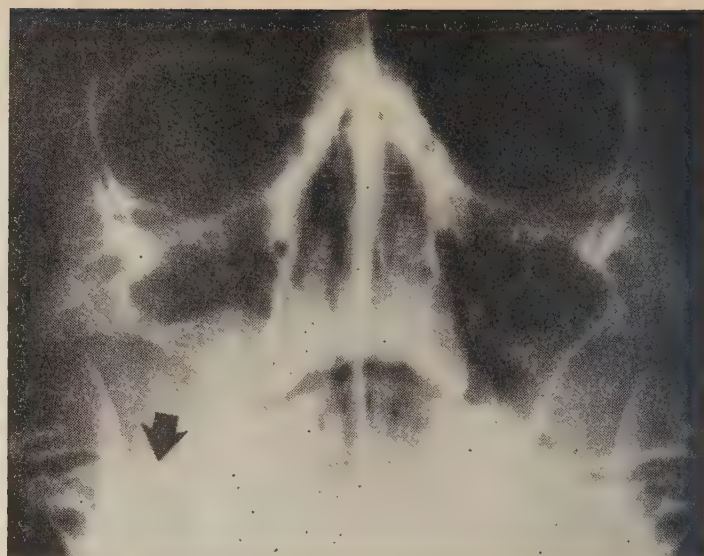
History — The patient, a 22 year old male school teacher, was referred for treatment of mandibular immobility in July 1967. He first became aware of some impairment in the ability to open his mouth when it was drawn to his attention by his family dentist nine years earlier. Several months later he noticed a "clicking" in the right temporomandibular joint region, accompanied by mild discomfort. The limitation of jaw movement and the "clicking" progressed without causing any incapacitation. He was able to receive routine dental care until 1961, when treatment of the posterior teeth was accomplished with much difficulty.

The patient had a bilateral meniscectomy at that time but it failed to relieve the clicking and did not increase his ability to open his mouth. Limitation of mandibular movement progressed and the "clicking" apparently changed to a "clunking" sound. A bilateral high condylectomy was performed in July 1966, but did not improve the "clunking" or mandibular movement. He was then referred to me.

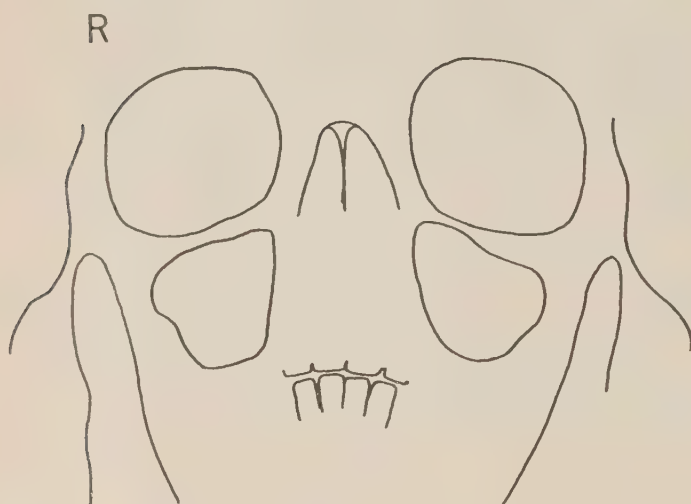
Examination — Clinical examination revealed a pleasant, tall, thin, 22 year old man with a mandibular incisal opening of 9 mm. Lateral and protrusive excursions were totally absent. Upon mandibular opening, a clearly audible "clunk" sound could be heard at the point of maximum movement. The incisal opening



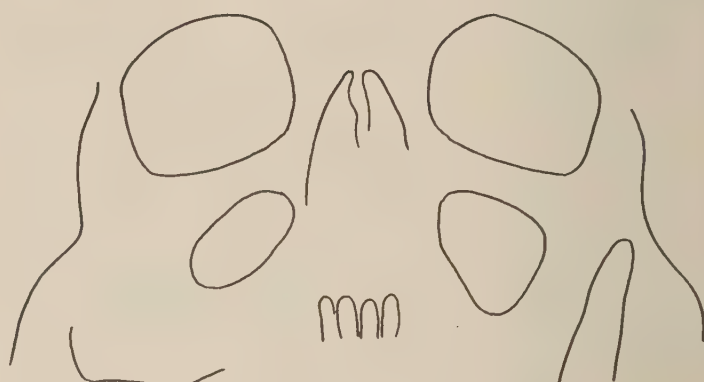
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3



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4

could be forcibly extended to 11 mm, but this caused the patient much discomfort in the right maxillary tuberosity region.

Digital palpation of the masseter and temporalis musculature showed these muscles to have good tonus and proved them to be functional. The dental arches exhibited a moderate amount of restorative treatment. The patient complained of intermittent difficulty in enunciating words containing the "F" sound, giving rise to an occupational problem.

The remainder of his physical examination was within normal limits. From the history and clinical evaluation a tentative diagnosis of coronoid enlargement was made.

Radiographic examination — A panoramic jaw radiograph revealed an elongated right coronoid process. A complete radiographic survey of the facial bones confirmed the diagnosis of enlarged right coronoid process (Fig 1, 2).

Treatment — The patient was admitted to hospital and taken to the operating room on December 15, 1967. Naso-endotracheal anaesthesia was accomplished by the "blind" technique, but the mandibular incisal opening remained at 9 mm despite anaesthesia. We

Fig 1 Pre-operative radiograph shows elongation and enlargement of the right coronoid process.

Fig 2 Tracing from Fig 1 shows enlarged right coronoid process.

Fig 3 Postoperative radiograph taken after amputation of the right coronoid process.

Fig 4 Tracing from Fig 3.

excised the right coronoid process using a submandibular approach (Fig 3, 4). A biopsy specimen was retained for further examination.

After the coronoidectomy we were able to open his mouth 35 mm using only digital pressure. The pre-existing "clunking" sound had also disappeared.

Following his recovery, the patient was instructed to refrain from opening his mouth and prescribed a soft diet. He was discharged from hospital on December 22 and maintained restricted movement for one week. He had, at this time, a voluntary incisal opening of 20 mm. He then started on a course of physiotherapy

utilizing custom made appliances (Fig 5). The jaw movements slowly improved, and the physiotherapy was discontinued six months later when he could voluntarily open 35 mm. We followed him for another six months without observing any reversal in mandibular mobility. By this time he had acquired a full range of mandibular excursion and stated that his previous speech difficulties had disappeared.

Pathology report — The biopsy specimen contained vital, dense, compact bone. There was no evidence of neoplastic change and no cartilage was observed. The pathologist confirmed the diagnosis of coronoid hyperplasia.

Discussion

The aetiology and pathogenesis of this condition remain obscure. Shira² states that unilateral enlargement results most frequently from an osteochondroma or a simple exostosis. He postulates the presence of an abnormal developmental defect in which the cartilaginous growth centres in the coronoid process persist and cause continued growth and hyperplasia of these parts. Van Zile and Johnson³ suggest that osteochondromas reach a relative state of maturity but that chronic irritation at the point of impact may stimulate a reactive osseous hyperplasia.

The diagnosis of coronoid hyperplasia is usually suggested from the history and confirmed by radiographs. Typically, the progress of mandibular limitation is slow and frequently the patient is unaware of his condition for some time. According to Rowe,⁴ there is deviation of the jaw to the affected side in unilateral cases of coronoid process enlargement. But this feature was absent in the present case, possibly because the coronoid process had expanded in all directions and become wedged on the inner surface of the malar bone.

In the dentulous patient, coronoid hyperplasia is treated by excision when the coronoid process limits mandibular movement so as to interfere with normal function. The intra-oral approach recommended by Allan and Reid⁵ and used successfully by Allison and Wallace⁶ was impractical in this case because of a questionable status of the temporomandibular joint and a possible need for joint surgery.

Summary

A case of unilateral hyperplasia of the coronoid process has been described. Surgical excision of the enlarged coronoid process followed by physiotherapy gave a favourable result.

The author expresses appreciation to Doctor E. W. Scrivener for his interest and assistance in the physiotherapy management of this case.

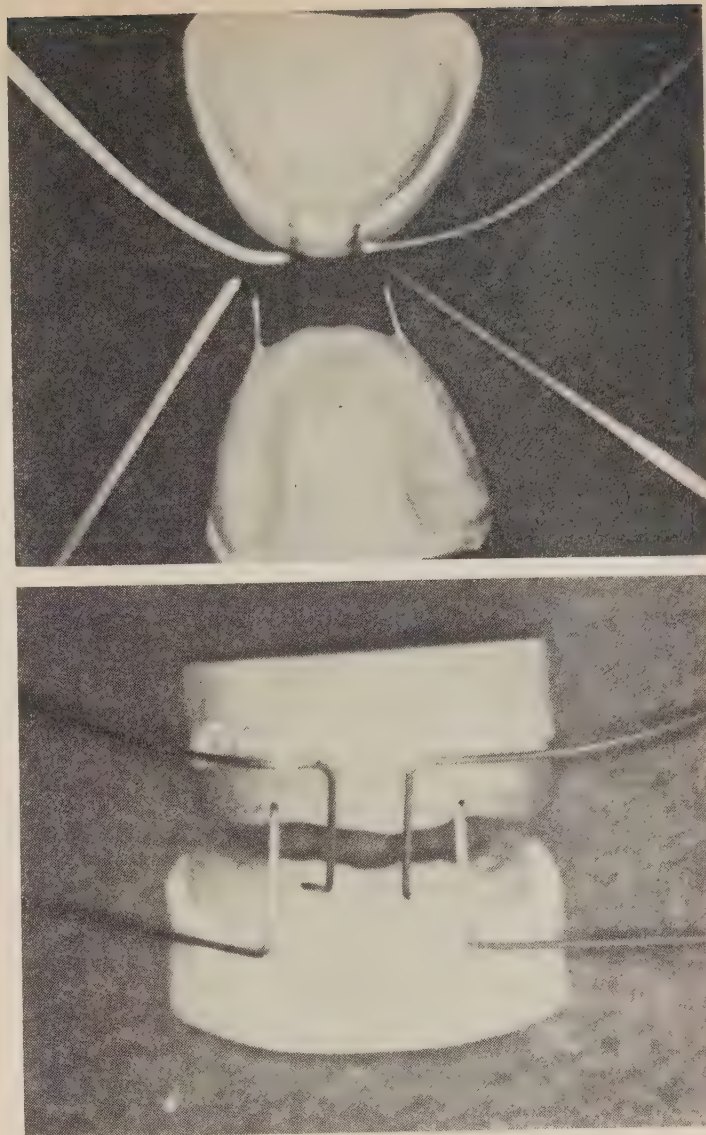


Fig 5 Custom-made appliances for mandibular physiotherapy. They were constructed by Doctor E. W. Scrivener.

Doctor Hurd, an oral surgeon, practises at 749 King St West, Kitchener.

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Occlusal equilibration in temporomandibular joint dysfunction: Report of five cases

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Occlusal correction was the common denominator in the treatment of these five patients who suffered from temporomandibular joint dysfunction. The author contends that occlusal disharmony should always be suspect in these cases. All conservative means of treatment, he says, should be exhausted before resorting to radical surgery.

Le traitement de cinq patients atteints d'une dysfonction de l'articulation temporo-mandibulaire a révélé un dénominateur commun: la rectification de l'occlusion. L'auteur maintient que l'on devrait toujours soupçonner un déséquilibre occlusal dans ces cas. Tous les moyens de traitements conservateurs devraient être utilisés à fond avant de recourir à la grande chirurgie.

The connection between occlusion and temporomandibular joint (TMJ) dysfunction has been qualitatively recognized for many years, but there is disagreement over the exact mechanism of this relationship. Opinions range from those who believe that all TMJ problems have an occlusal basis to those who hold that occlusion is completely irrelevant.

Experience on the maxillofacial unit, Scarborough General Hospital, suggests that occlusion often contributes significantly to TMJ dysfunction though emotional disturbance, trauma, and other factors may also be involved.

The following reports illustrate five cases which the writer and others have treated. These are cases from which we have developed a conceptual framework on which treatment may be based.

The management of some of the cases may be criticized as being somewhat inefficient. We attribute this to confusion over the definitions of terms, to divergent theories of occlusion and, most of all, to the dentist's preoccupation with technique rather than basic principles. All of these difficulties conspire to frustrate the student of this area of dentistry. We hope that the subsequent discussion may contribute to clarification.

Case 1

This 20 year old lady complained of trismus and pain in the right temporal region. The pain began two

months earlier, in June 1966, following an automobile accident in which she suffered an injury to the right side of the head. She had been examined in the emergency department of Scarborough General Hospital and released following the accident.

Examination — The occlusion was basically Class I, but markedly distorted by earlier thumbsucking and more recently by a habit of biting the lower lip and a tongue thrust. There was an anterior open bite extending from the upper right first molar to the upper left cuspid. A 7 mm overjet and the occlusion of the posterior teeth prevented incisor contact. All of the elevators of the mandible were tender to pressure, especially on the right.

We marked reference points on the nose and chin and measured the maximum opening before and after spraying the skin over the temporal and masseter regions with ethyl chloride. The two positions differed by 3 mm.

Diagnosis — Spasm of the right temporalis, masseter and internal pterygoid muscles arising from a severe occlusal abnormality and triggered by a traumatic incident. We regarded this spasm as an acute exacerbation of a latent condition.

Treatment — We prescribed a muscle relaxant, orphenadrine citrate (Norflex) 100 mg bid, for three days to break the spasm. Thereafter the occlusal relationship was fully assessed.

Initial contact was observed in the right molar area, with a shift to the right on final closure. Discontinuing the medication, we began occlusal equilibration with the limited objective of reducing stress on the second molars. Contacts in the terminal hinge arc were established from the first bicuspid to the second molars.

After one week the patient could already open her mouth 9-10 mm further. The muscle pain, though less severe, still persisted in the right temporal area. We continued equilibration in the terminal hinge position and began occlusal correction in the left lateral excursion.

Further improvement was noted two weeks later. Only the right medial pterygoid and temporalis were still tender. Spot grinding was done in centric and both lateral positions.

Slight discomfort in the temporal area was the only remaining symptom three weeks later. A non-functioning contact in the right molar area was noted and eliminated.

One month thereafter the patient reported rapid

fatigue on chewing. Pressure over the right joint still elicited some pain.

At this point we concluded that further occlusal adjustment would be unproductive unless the tongue thrust were corrected. Accordingly, the patient was referred to the speech therapist on our team.

Speech analysis in April 1967 showed that articulation of "S" and "Z" sounds was consistently defective. The patient articulated these consonants with the tongue tip on the teeth instead of on the alveolar arch, suppressing their sharp sibilance and permitting diffuse escape of air. Her articulation of "S" and "Z" was improved when concentrating on the retraction of the tip of the tongue well behind the teeth.

She also stuttered whenever she spoke rapidly and used tongue tip sounds simultaneously. This problem had increased since the car accident.

Also noted was a severely distorted swallowing pattern accompanied by thrusting the tongue between the dental arches. This interfered with proper use of the tongue tip in making the sibilant sounds.

At rest, the upper dentition and gum line appeared normal, but the lower incisors and gum area receded about 2 cm, leaving a space between the upper and lower front teeth. Occupying this space was the tongue tip, which was lying over the lower teeth but behind the upper teeth. On closure, the lower jaw tended to slide to the left.

Speech therapy was therefore initiated to correct the tongue posture, the swallowing pattern and the articulation of sibilants. By May 1968, the patient's reading clarity and speed were almost perfect. When she concentrated, her free speech was slow but clear; yet there was only a slight carry-over to spontaneous conversation. Though able to use the tongue tip correctly for producing the formerly defective speech sounds, she still complained that her lower teeth "were always in the way."

At this time we refined the lateral and centric occlusion, concentrating on non-functioning contacts. Meanwhile, the speech therapy sessions continued. By September 1968, the patient could pronounce a clear "S" and "Z" in single words and short sentences, but not in spontaneous conversation. The rate of speech was still too fast, but she was aware of this and tried to exert some conscious control. The stutter had almost subsided.

We then turned our attention to the matter of reducing the overjet to help the speech pattern and prevent the tongue from resuming its former posture. But the orthodontist was reluctant to start treatment because the patient's appearance was good and treatment would be lengthy and complicated. Orthodontic treatment, he said, could be deferred until later if it proved necessary.

Subsequent experience suggests that the tongue posture will relapse, disrupting the occlusion, and that incisor function is necessary for physiological TMJ function.

Case 2

This 31 year old man had experienced pain and clicking in the right TMJ for a year. He could scarcely open his jaws. A muscle relaxant was therefore prescribed and we examined him one week later.

Examination — Twenty teeth were present: upper left lateral incisor to first bicuspid and third molar; lower left central incisor to first bicuspid and first and second molar; upper right central incisor to first bicuspid and third molar; lower right central incisor to second bicuspid. The upper left central incisor was replaced by a fixed bridge. There were five carious tooth surfaces; also moderate to advanced periodontitis characterized by gingival oedema, pocket formation and bone loss in two areas.

Initial contact occurred on the right cuspids, with a shift to the left on final closure. The total absence of molar function on the right side and the lateral shift of the mandible suggested that the occlusion contributed to the joint problem.

Treatment — We restored the carious lesions and ground the teeth to reduce occlusal interference. The lower jaw responded within three weeks to scaling, home care instruction and prescription for nutritional support. Gingivoplasty, judged necessary in the maxilla, was also done. After a further three weeks we performed a prophylaxis, prepared rest seats and made impressions for partial dentures. These were inserted about 10 days later.

The patient was seen twice subsequently for adjustments. All symptoms disappeared after the second adjustment and there has been no recurrence in the two years since treatment was completed.

Case 3

This 61 year old lady had suffered many illnesses, including breast cancer, arthritis, asthma, hypertension and cardiac insufficiency. Though we had seen her from time to time for routine dental care, we had tried to avoid major prosthetic service in view of her many other problems.

On this occasion, however, she complained of pain in all of the remaining lower teeth (incisors, cuspids and bicuspids) as well as bilateral temporal headache. The problem appeared to be twofold: (1) absence of mandibular molars and (2) an anterior functional shift of the mandible, transmitting pressure to the incisors.

Treatment — We constructed an acrylic bite-block to increase the vertical opening about ½ mm at the molar area. Adjusting the occlusion with this appliance, we tried to produce acceptable occlusal curves (Wilson and Spee) until the bicuspids began to contact. These were adjusted to permit complete closure on as many natural teeth as possible in the terminal hinge position. The protrusive excursion was adjusted to permit an even slide to and from this position without palpable pressure on the teeth. Symptoms subsided within five days and have not recurred for seven months. A partial denture will be provided later.

Case 4

This 52 year old mute woman was referred from the maxillofacial unit. She complained about severe joint pain on the left side, limitation of movement, and bilateral temporal headache which was more acute on

the left side. The TMJ pain had subsided at the time of examination, the joint having been injected with cortisone two days earlier.

The onset of symptoms coincided with the discovery of a lesion described by the patient as a "mole," which had caused her a great deal of anxiety until it was excised two months previous to our examination.

Examination — Twenty-three teeth were present: upper and lower left and right central incisor to second bicuspid; upper right second and third molars; lower right third molar. Advanced periodontal destruction was evident in the maxilla and the lower right second bicuspid had little bony support. The distance from the anterior nasal spine to under the chin was 78.2 mm with the mouth fully opened.

Initial contact in the terminal hinge arc occurred on the right between the distal portion of the lower second bicuspid and the mesial portion of the upper second molar. On complete closure the mandible was deflected anteriorly and to the left.

Treatment — Because of the periodontal condition, we decided to remove all of the upper teeth and make a complete upper and partial lower denture. The lower denture was built up to a reasonable occlusal plane. A complete upper denture, having only anterior teeth and lateral acrylic blocks, was also prepared for immediate insertion.

We admitted the patient to hospital and removed 12 upper teeth and one lower tooth under general anaesthesia with naso-endotracheal intubation. Alveoloplasty and soft tissue resection were done in the usual way and the wounds closed. We inserted the dentures, checking and adjusting the occlusion for centric stability. The patient was discharged on the following day.

Two weeks later she returned to the office where we adjusted the occlusion to permit normal functional movements. Well defined curves of Wilson and Spee were established, while carefully preserving the centric stops.

Three months have elapsed since the operation and there has been no recurrence of symptoms. The maximum mouth opening, measured as before, has increased 14 mm.

We made the upper denture because the patient could not maintain closure in the terminal hinge arc on account of the interfering occlusal contacts. The denture eliminated the need for time-consuming reduction of interferences between unopposed teeth prior to maxillomandibular registration. The anterior teeth on the treatment denture disciplined the mandible in avoiding protrusion, the habitual postural problem of the edentulous patient. This treatment denture was replaced after 12 months by a more conventional one. The symptoms have not recurred.

Case 5

This 29 year old woman complained of pain in the left molar area, constant temporal headache and pain when opening the mouth widely.

Examination — The dentition was complete. There were no signs of caries or periodontal disease. The

occlusion was Class I with an open bite in the anterior segment.

When questioned about possible pressure habits, she reported that she still sucked her thumb when falling asleep. The occlusal pattern did not seem to bear this out, as there was little or no protrusion of the maxillary incisors, but when she demonstrated the position of the thumb it appeared to be consistent with the findings.

The initial contact in the terminal hinge arc was on the left molars and the mandible shifted anteriorly on complete closure. The muscles on the left side were tender to pressure.

Treatment — We corrected the occlusion, using an anterior stop, to permit stable closure in the terminal hinge arc. The protrusive excursion was not touched but the lateral excursions were adjusted to provide orderly disengagement of the teeth from third molar to cuspid.

Two weeks later the patient reported that the symptoms had diminished but had not disappeared. Refinement of the previously adjusted positions and movements was not productive, so we turned our attention to the protrusive movement. Because of the anterior open bite, the patient's posterior teeth interfered with this slide, causing a very "bumpy ride." Using great care to avoid the centric stops, we reduced these interferences to introduce some incisal guidance and disengagement of the posterior teeth on assuming the protrusive position. Thereafter, the symptoms disappeared within two weeks, but they may recur because this patient still sucks her thumb.

Discussion

The recorded literature on TMJ dysfunction has increased our understanding of the function and structure of the masticatory system, but it provides very few clues about the practical management of TMJ problems.

Complete elucidation of mandibular function is beyond the scope of this paper. I therefore merely outline the conceptual framework on which treatment is based, if only to give those who disagree a chance to join issue. The opinions expressed are my own and are not necessarily shared by my colleagues of the Scarborough General Hospital maxillofacial unit.

Oversimplifying for the moment, we may consider the suspension of the mandible as two skeletal elements having three articulations: two temporomandibular joints and the articulation of the teeth. We shall avoid the question of whether or not each TMJ consists of two joints or one joint with a shim (the meniscus) in it; both concepts seem valid, but the second is simpler. To produce mechanical stability in the system, all three articulations must be in stable positions at the same time; that is, the dental articulation must be consistent with the position of stability of both temporomandibular joints.

Intuitively, we would anticipate the most stable position of the condyles to be the highest location in the glenoid fossa permitted by the meniscus and the direction of force exerted by the elevators of the mandible, rather than the traditional concept of the "most

posterior position." Clinical evidence seems to support this view. In fact, retraction of the mandible seems possible from this most stable position, though Sicher¹ contends that it is not (perhaps because he subscribes to the "most posterior" concept). Further, the condyles seem to move down when this retraction occurs. Again, in patients whose muscle function is suppressed, as in general anaesthesia,² the jaw assumes a skeletally stable position with the condyles seated in their uppermost position. This occurs even when cuspal interdigitation suggests a different position, and despite the influence of gravity which one would expect to favour the "most posterior position."

Posselt,³ though he does not say so directly, implies that the terminal hinge position is in fact the most superior position of the condyles rather than the most posterior; his famous "envelope of motion" diagram reinforces this suggestion, as does his admission that the normal position of closure is actually somewhat anterior to what he defines as terminal hinge position. On the basis of this evidence we accept the uppermost position as the correct or terminal hinge position.

Proprioceptors which inform the central nervous system about the positional relationship of the mandible are located in the capsules of the temporomandibular joints; hence the central nervous system does not have the assurance that the mandible is functioning if the condyles do not seat uppermost in the fossae.

The first step in treatment, then, is to establish the correct home position of the mandible. Various methods are available and the clinician may choose whichever he finds appropriate. Thereafter, reshaping or rebuilding the occlusion to provide a dental stability at the same position is not difficult, though it may be time-consuming.

The second step consists in making certain that no other position of closure is stable. Forcible closure of the jaws in any other position should result in a smooth slide to the established position of stability.² This is necessary so that lateral stress may be minimal. Such stress occurs whenever there is cuspal collision at some point in a functional movement.

The simplest way of approaching this step, in my experience, is to establish normal occlusal curvature — the Curve of Spee and the Curve of Wilson. The aim is to produce an orderly disengagement of the teeth from back to front in both lateral and protrusive movements; that is, the teeth closest to the muscles, and on which the greatest lateral force can therefore be applied, separate first and engage last. The teeth furthest away from the muscles remain in contact, and serve to guide the mandible home.²

Contacts occur on the balancing side only when cusp height is of sufficient magnitude to support joint function. If the cusps are too high, they interfere with condylar function. When this happens, the teeth are subjected to destructive lateral forces and these are most pronounced in the case of the molars — these teeth being closest to the point of application of force.

Protrusive functional movement should be characterized by an orderly engagement of the teeth as the mandible moves toward terminal closure. If we start the manoeuvre with incisor contact, the condyles begin away from their home position. Because of this,

and the distance between the incisors from the muscles, these teeth are capable of guiding the mandible without support from the posterior teeth. At the movement progresses, more teeth come into play until condylar guidance takes over and the incisors disengage.

Lack of anterior guidance, as in case 1 and case 5, induces (1) a loss of sense of position of the mandible when both condyles are away from "home" and (2) cuspal collision resulting in trauma to the posterior teeth and, through them, to the joints. The required amount of anterior guidance is thus governed by the anterior slope of the glenoid fossa, by the occlusal plane, and by cusp height. In general, the anterior guidance must be the greatest vertical component of the occlusion. The anterior teeth thus serve to fence in the mandible.

To recapitulate, the requirements of physiological occlusion are:

1. Correspondence between the position of dental stability and that of skeletal stability.
2. Instability in all other positions.
3. Orderly disengagement of the teeth from molars to cuspids in lateral excursions.
4. Sufficient incisal guidance to provide a sense of position when the mandible is in protrusive excursion.

The application of these principles is not difficult. Techniques are readily devised and there seems no need for the complex methodology described by Shore⁴ or to mount casts of every case on a complex articulator. This is not to disparage the contribution made by Shore or by gnathologists; but their value has been more in the insights they have provided than in direct clinical application.

Conclusion

Five cases of TMJ dysfunction were successfully treated by various forms of occlusal correction. Though there were other components in the aetiology of some of these cases, all responded to the treatment. This suggests that the occlusion must always be suspect in joint dysfunction, notwithstanding other possible aetiological factors. Furthermore, all conservative means of treatment should be exhausted before resorting to radical surgery. A conceptual framework is outlined on which treatment may be based.

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Tuberculous lesion of the oral cavity: Report of case

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Montreal

The author describes an atypical tuberculous lesion of the mucosa which resulted in the discovery of active pulmonary tuberculosis in his patient. The report serves to remind dentists that any oral lesion of obscure origin deserves biopsy and further investigation. Patients with tuberculosis now return to their homes much more quickly thanks to treatment with streptomycin, isonicotinic acid hydrazide (INH) and aminosalicylic acid (PAS). Not all patients remember to take their medication, however. Such individuals may suffer a relapse and they present a hazard to the dental office.

L'auteur décrit une lésion tuberculeuse atypique de la muqueuse qui conduisit à la découverte d'une tuberculose pulmonaire active chez le patient. Ce cas rappellera au dentiste que toute lésion buccale d'origine obscure demande une biopsie ainsi que d'autres études. Les tuberculeux sont maintenant renvoyés chez eux beaucoup plus rapidement grâce au traitement à l'aide de la streptomycine, de l'acide isonicotinique hydrazide et de l'acide aminosalicylique. Cependant, tous les patients ne pensent pas à prendre leurs médicaments. Ils peuvent dans ce cas rechuter et constituent un danger dans un cabinet dentaire.

Though oral tuberculous lesions are uncommon in patients with active pulmonary tuberculosis,¹⁻³ the dentist can never discount such a possibility. Biopsy may confirm a tentative diagnosis when a tuberculous lesion is observed in the mouth of a known tuberculous patient. Conversely, the detection of such a lesion may uncover an active case of pulmonary tuberculosis.

The following report exemplifies the latter possibility. It describes a patient with an oral lesion of four months' duration which led to a diagnosis of moderately advanced pulmonary tuberculosis.

Case report

A 26 year old Caucasian woman was seen for oral examination and consultation regarding a long-standing lesion on the alveolar mucosa.

The patient, a night club dancer, had noticed a tiny sore on her "gums" at the midline close to the lower incisors four months earlier. She had been seen by her dentist who prescribed topical application of untinted nitromersol tincture 1:200 (tincture of metaphen). After the lesion had gradually increased in size, a periodontist advised topical application of sodium carboxymethylcellulose (Orabase Emollient) to the affected area.

The patient thought she was in good health but had gradually lost 10 lbs in weight during the preceding two years. She also complained of recent fatigue and vague dizziness which she attributed to overwork and excessive smoking. The latter, she felt, was also responsible for a persistent unproductive cough. She was unaware of any expectoration despite her cough.

Oral examination revealed a white leathery lesion on the labial alveolar mucosa, apparently arising from the fraenum at the midline and extending laterally beneath the mesial aspect of each lateral incisor (Fig 1). Only with difficulty could the surface covering the lesion be teased away from its base. The regional lymph nodes were not enlarged.

The lesion's prolonged duration without remission warranted biopsy. A chest radiograph was also ordered.

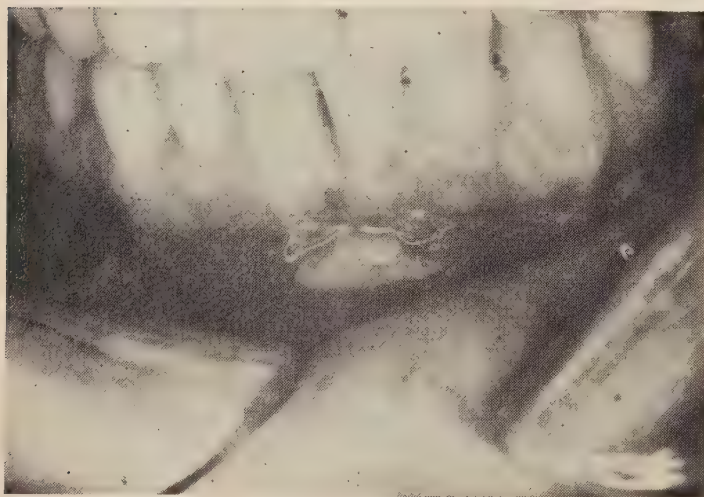


Fig 1 Tuberculous lesion of the labial mucosa of the lower jaw.

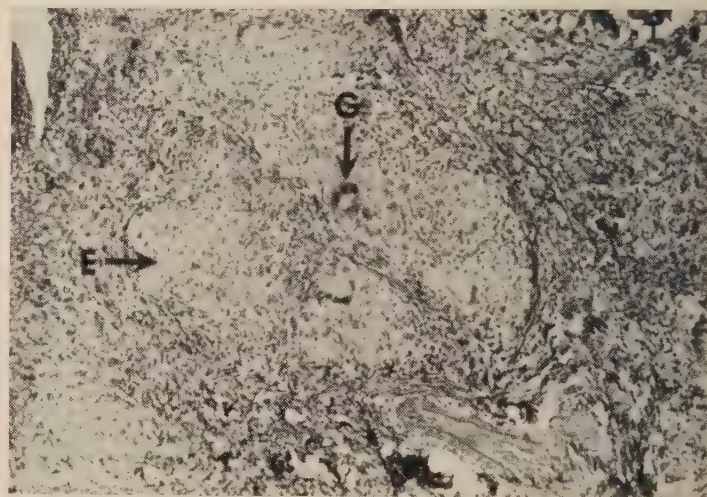


Fig 2 Photomicrograph of the lesion. Note giant cell (G) and epithelioid cells (E). H.E., x 10.

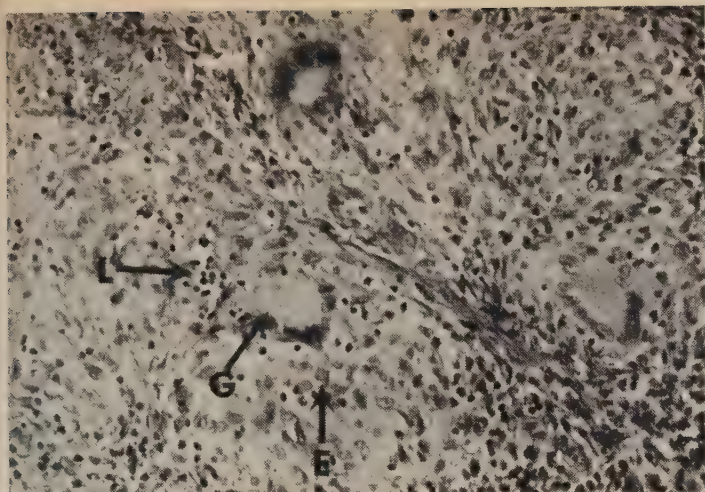


Fig 3 Enlarged central portion of Figure 2 shows Langhans' giant cells (G) surrounded by lymphocytes (L) and epithelioid cells (E). H.E., x 100.

Biopsy—After peripheral infiltration with lidocaine HCl (1:50,000 epinephrine) the oral lesion was completely excised together with the underlying periosteum and some of the adjacent tissue. The specimen measuring 1.5 x 10 x 5 mm was immediately fixed in 70 per cent alcohol.

Microscopic examination disclosed stratified squamous epithelium and a submucosa of connective tissue and striated muscle. The epithelium was absent in the centre of the specimen where it was replaced by a granulomatous inflammatory reaction extending into the submucosa. An accumulation of lymphocytes, epithelioid cells and Langhans' giant cells characterized the inflammatory reaction. Small islands of caseation necrosis were evident in some areas. The epithelioid cells and giant cells in many regions were arranged in follicles. Although the Ziehl-Nielsen strain was negative for acid-fast bacillus, the microscopic appearance was compatible with tuberculosis of the oral mucosa (Fig 2, 3).

Chest radiographs—Patchy radiolucent areas were observed in the second and third right anterior intercostal spaces. The hilum was somewhat accentuated but the remainder of the right lung field seemed clear (Fig 4).

The left lung field revealed nodular radiolucent patches at the apex and in the first and second anterior intercostal spaces. Also evident was a more pronounced radiolucent area involving the second and third anterior intercostal spaces and extending to the mid-clavicular line. The rest of the left lung field was clear.

Laboratory findings—Sputum examination, performed on hospital admission, revealed numerous acid-fast bacilli on smear. *Mycobacterium tuberculosis* was subsequently isolated from the cultures. A tracheal specimen yielded similar results.

Treatment—Following an 18 month course of therapy with streptomycin, isonicotinic acid hydrazide (INH, Isoniazid) and aminosalicylic acid (PAS) the patient was discharged as cured.

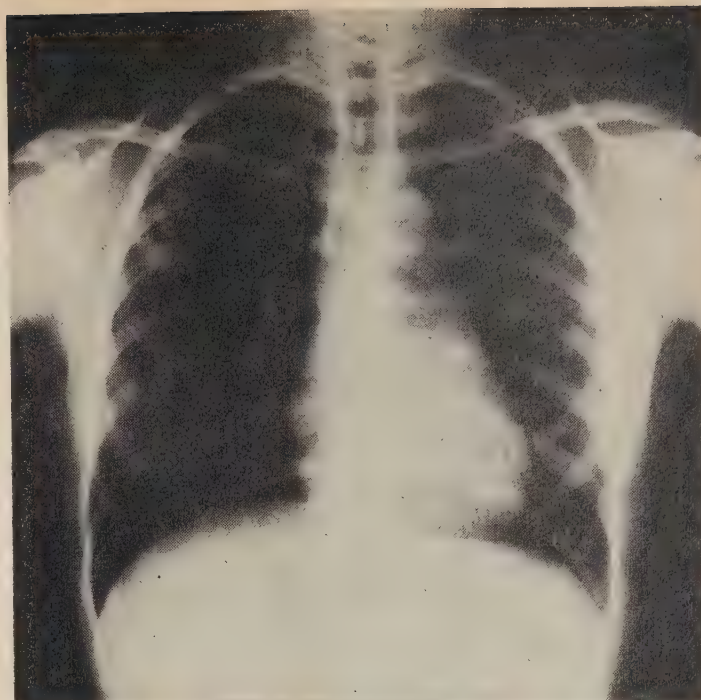


Fig 4 Chest radiograph shows patchy areas of infiltration and suspicious radiolucent areas.

Discussion

Oral tubercular lesions assume such great clinical variations that no pathognomonic features exist. These lesions have been reported^{4, 5} to resemble ulcers, fissures and granulomas, affecting the tongue and less frequently the palate, lips, buccal mucosa, gingiva or fraena.

A tuberculous lesion is frequently mistaken for an aphthous ulcer, a carcinoma, a simple hyperplasia or a syphilitic lesion.⁵ A diagnosis of tuberculosis can only be confirmed by microscopic examination of the tissue and from sputum smears, cultures and animal inoculation.^{4, 6}

Summary

A long-standing lesion of the alveolar mucosa of a 26 year old woman resulted in the detection of an advanced case of pulmonary tuberculosis. The clinical appearance of an oral tuberculous lesion is not pathognomonic and diagnosis is only possible from microscopic examination and sputum smears and cultures.

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Education for prevention of periodontal disease

J. K. Berdon, DDS, MSD
Morgantown, West Virginia

Many dentists, says Doctor Berdon, make insufficient use of preventive dentistry and do not give their patients adequate instruction in oral hygiene. He attributes this fault to deficiencies in the undergraduate curriculum which often overlooks the role of oral hygiene in disciplines other than periodontics. Appropriate instruction must penetrate all areas of the curriculum if dentists are to apply oral hygiene principles and preventive dentistry more effectively. Dental auxiliaries can assist by providing oral hygiene service and instruction. Dentists who employ auxiliaries for this purpose must be adequately trained in their supervision.

Nombre de dentistes, selon le Dr Berdon, ne font pas suffisamment appel à la dentisterie préventive et ne donnent pas à leurs patients de connaissances suffisantes en hygiène buccale. Il attribue ce défaut aux carences des programmes d'études qui souvent négligent le rôle de l'hygiène buccale dans les disciplines autres que la périodontie. Une formation adéquate doit être incorporée à toutes les parties du programme afin que les dentistes puissent appliquer plus efficacement les principes d'hygiène buccale et de dentisterie préventive. Services et instruction en hygiène buccale peuvent aussi être dispensés par les auxiliaires dentaires. Les dentistes qui emploient des auxiliaires à cette fin doivent recevoir une formation appropriée pour les superviser.

Dental disease is a world-wide phenomenon; only the severity varies in different parts of the globe.¹⁻⁸

Caries and periodontal disease cause approximately the same number of extractions in advanced countries.^{1, 2, 4, 6}

The prevalence and severity of periodontal disease correlate with a number of factors; age and oral hygiene account for about 90 per cent of this variation.^{5, 7, 9-17} Additionally, the disease is associated with sex, socio-economic factors, tobacco and betel consumption.^{7, 8, 10, 16, 18-25} But most periodontal disorders

are basically due to bacterial and local irritants, such as plaque, calculus and occlusion. They may be modified by systemic conditions which affect healing.

Treatment, prevention

Successful treatment of periodontal conditions requires interest on the part of the patient as well as the dentist. Such interest can only be engendered by making both aware of the problem—through education.

Treatment alone is time-consuming and expensive. It also requires more manpower than is available, and is therefore impractical as a solution. The real answer lies in prevention. This requires the training of more dental hygienists to educate and care for patients.

Concern for oral health

Concern for oral health must pervade all levels of society. Nationally, the promotion must come from governments and national dental organizations. Governments can help by fostering programs to educate more dental personnel, enacting public health laws and supporting programs for the treatment of dental problems in children.

Local dental societies have an equally important role: to cooperate with the national organizations. Very effective advertising campaigns, like "question-and-answer" radio interviews or newspaper columns can also be promoted at this level.

But the most important contribution lies in the individual patient's awareness of oral hygiene and health. He can only acquire this knowledge from the dentist. Unfortunately, this is where we encounter the worst deficiencies. For example, according to a recent survey, less than 20 per cent of the students at one dental school had ever received any oral hygiene instruction as dental patients.²⁶

I believe the dentist has a duty to teach his patient about the importance of oral hygiene and demonstrate techniques of oral hygiene. This must be done on a personal basis in order to evaluate the patient's dexterity and recommend appropriate hygiene techniques. However, many private practitioners fail to give this kind of instruction. They do not employ any methods of preventive dentistry. A common excuse is that other, less time-consuming services are more remunerative. Perhaps they overlook the fact that they can reorganize their practice and employ dental hygienists to help

educate their patients. Such practices can be very successful financially and very rewarding personally.

Teaching dentists and patients

Dentists should know more about oral hygiene techniques and applications. Every practitioner should be familiar with the effects of different brushing techniques. Every dentist should know the purpose of various toothbrush designs.

Many people buy a toothbrush because of the colour of the handle rather than for the design or consistency of the bristles. The head of the brush must fit the mouth. The brush must be appropriate for the brushing technique. The technique must be one that the patient can manage. The only way to determine this is by giving personal brushing instructions and supervision. This applies especially to patients with periodontal problems.

Abutment teeth that support removable partial dentures have a less favourable prognosis than other teeth.²⁷⁻³⁰ More often than not these teeth are lost because of inadequate oral hygiene. Do prosthodontic departments give adequate instruction in how to clean such teeth? If not, undergraduate programs must be improved so that dentists can apply oral hygiene principles more effectively. Instruction must penetrate all areas of the curriculum, not just periodontics.

Consider the physician who discovers a lesion on the foot but decides "watch it and see what happens." Subsequently the lesion deteriorates and the foot has to be amputated; but the physician offers consolation because he can fabricate a beautiful appliance of the latest design and materials that won't irritate the stump. Such treatment hardly instills confidence; yet many dentists offer this type of service because they are more absorbed with replacement or repair than prevention.

Conclusions

Dentists must be taught to make better use of preventive dentistry as an active part of practice. Dental auxiliaries can assist by providing oral hygiene service and instruction. Dentists who employ auxiliaries should be adequately trained to supervise them.

It is our obligation to help patients, not simply by replacing diseased parts, but by preventing disease.

"Soap and education are not as quick as a massacre, but they are more deadly in the long run!"—Mark Twain.

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Abstracts

Geographic variations in the prevalence of dental caries in the United States of America

*T. G. Ludwig and B. G. Bibby.
Caries Res 3:32, 1969*

To investigate the effect of geography and soils on caries a mirror and explorer examination was made of 1,876 12-14 year old, white lifelong residents in 19 communities of 3,000-15,000 population in the eastern United States. The communities were situated on four different soil types and all used water containing 0.3 ppm F or less. Caries prevalence was highest in New England, less in the central Atlantic and lowest in the south Atlantic states. Caries was highest on podzol soils and of descending prevalence on grey-brown podzols, red-yellow podzols, and subhumic gley soils.

An examination of 553 children in eight similar communities on high and low selenium soils in the northwestern United States showed that caries was higher in selenium towns, but the distribution of caries prevalence suggested that factors in addition to selenium were involved.

Epinephrine in pulpotomy

E. M. Kouri, J. L. Matthews and P. P. Taylor. J Dent Child 26:123, 1969

Fourteen children were selected for this study on the basis of bilateral carious exposures of the lower left and right deciduous first molars. The purpose of the study was to determine the effects of a vasoconstrictor on the bleeding time and the healing qualities of a deciduous tooth in which a formocresol pulpotomy was performed. Histological, radiographic and clinical data were used in evaluating the treated teeth.

Histologically, the teeth treated with adrenalin and cotton had a similar response to treatment as the teeth which were treated with sterile cotton and water. The principal difference was the amount of extravasated red blood cells and the nature of the band of tissue at the amputation site. The band was primarily osteoid; yet in some teeth it had a fibrous appearance. The middle

and apical thirds of the pulp appeared normal in experimental and control teeth.

Clinically, none of the teeth gave symptoms which would indicate failure. Radiographic investigation showed all 28 teeth to have a normal lamina dura, and no pathological lesions were observed.

The addition of a topically applied vasoconstrictor to the operative pulpotomy procedure appeared to be of value. In all cases, bleeding time was reduced and healing of the pulp progressed to the formation of a matrix which was osteoid in nature when examined by electronmicroscopy.

Relationship of water fluoridation to bone density in two New York towns

R. F. Korns. Public Health Reports 84: 815, 1969.

This article compares the incidence of hip fractures and wrist fractures in persons over 40 years of age living in the cities of Kingston and Newburgh, NY, since 1945. Kingston has negligible amounts of fluoride in its water supply; Newburgh's water has been fluoridated at 1 ppm since 1945. No significant sex and age specific differences were observed in fracture rates between the two cities; however, striking increases occurred among women and with ageing.

The age and sex specific prevalence of osteoporosis, collapsed vertebrae, and calcification of the aorta in persons over 55 years of age in the two cities was also studied. No significant or consistent differences in prevalence of these three conditions were seen between the two cities although, again, increased incidence with age, especially among women, was observed.

Preoperative medications in operative dentistry for children

K. F. Jones. J Dent Child 26:93, 1969

One hundred patients, from the usual flow of patients in a private paedodontic practice, were each given a different drug (secobarbital, promethazine, and placebo) in random order before each of three operative appointments. One drug was administered at every appointment.

The child's behaviour was recorded and compared with his behaviour on the examination appointment and his behaviour under the influence of each drug in a double blind experiment. Each child's behaviour was compared to the group's behaviour. The child was graded or evaluated on three factors: cooperation, crying and outward apprehension. The scores were recorded for the first, second and third 15 minutes of every appointment.

The results, evaluated statistically, led to the following conclusions:

1. The pre-operative drugs tested were valuable adjuncts to operative dentistry for children.
2. Promethazine given in sufficient dosage (70 mg) 45 minutes before an operative appointment helped to relieve anxiety and control the behaviour of child patients.
3. Secobarbital given in sufficient dosage (1¼ grains) 45 minutes before an operative appointment gave a highly significant result when compared to the placebo operative appointment.
4. Three per cent of the patients exhibited a reverse reaction when given a barbiturate. Another 9 per cent exhibited this reverse reaction to a lesser degree.
5. Neither secobarbital nor promethazine, used alone, resulted in consistently better behaviour in all patients at all times.

Use of a water-free stannous fluoride-containing gel in the control of dental hypersensitivity

J. T. Miller, I. L. Shannon, W. G. Kilgore and Joan E. Beookman. J Periodont 40:490, 1969.

This study was designed to determine the effectiveness of a desensitizing dentifrice in providing relief for hypersensitive root surfaces that are sensitive to cold, heat, touch, sweet or sour substances. The test dentifrice contained an 0.4 per cent stannous fluoride gel and was abrasive-free. The mixture was gelled with carboxymethylcellulose and a fused silica product with particle size about the same as cigarette smoke.

A total of 23 patients with hypersensitive root surfaces were treated with the stannous fluoride gel and with a placebo gel. Instructions were given to apply topically and allow the medication to remain on the teeth after brushing.

Statistical analysis of the result showed a highly significant improvement in subjects treated with the fluoride gel as compared to treatment with the placebo gel.

Book Reviews

Advances in Oral Biology

P. H. Staple, ed. Vol 3. New York and London, Academic Press, 1968. 308 p. Illus. \$17.50

Research and publications in oral biology proliferate so rapidly that an individual cannot keep abreast of recent advances outside of his own field of investigation. *Advances in Oral Biology* remedies this defect by reviewing several major areas in oral physiology. In a word, it attempts to "can" current progress in various aspects of oral biology in a single publication.

The book consists of eight review articles. Four of them deal with blood circulation in oral tissues, physiology of snake venoms, bone healing and mathematical elucidation of malocclusion syndromes. The other four review research on dental caries. These articles represent the collective efforts of 13 contributors, all actively involved in oral biology research.

The section on blood circulation in oral tissues also includes a discussion of the skin of the head, a topic which is "neglected in classic texts on human physiology" despite its "importance for human survival." The authors point out that specific values for volume blood flow to many of the oral tissues require additional study.

Studies by Gans and Ellit are reported in the section on production, injection and action of snake venoms. This article represents interdisciplinary collaboration which exploits oral biology beyond human race.

Boyne's contribution on bone healing reasserts the value of investigative technique using tetracycline fluorescence to study osseous repair. Unfortunately, the bibliography at the end of this article is rather inadequate and not up-to-date.

Grainger uses a fascinating approach to study a complex biomechanical phenomenon. He "explores the value of factor analysis methods to clarify the interrelationship between the various manifestations of malocclusion and associated predisposing conditions."

The authors of the last four articles on caries research depart from the

common, though desirable, practice of stressing the fluoride-carries relationship. Instead, they review the formation and influence of surface phases on calcium phosphate solids, dental caries in monkeys, implantation of antibiotic-resistant bacteria and the production of dental caries in rats, and the effect of trace elements on dental caries. These articles give the reader concise information that ordinarily requires a voluminous textbook.

Though coverage of the subject matter is generally adequate, some topics have been curtailed because of limitations of space. It may be worth enlarging future editions in order to accommodate some coverage of major areas of interest in oral biology in each volume or, alternatively, publish single volumes with more complete coverage of all aspects of research in each particular field.

Printing and reproduction are very good. The bibliography is quite comprehensive. All in all, the book provides very good resource material for graduate students and researchers in oral biology and dental sciences.

B. J. Zulqar-Nain

Dental Anatomy and Occlusion: A study of the masticatory system

B. S. Kraus, R. E. Jordan and L. Abrams. Baltimore, The Williams and Wilkins Company, 1969. 317+xvi p. Illus

The form and function of the human dentition is usually described in a rather stereotype fashion to prepare the dental student for mechanical operations upon the teeth. The intrinsic interest of teeth as highly specialized products of evolution, subject to the vagaries of genetic inheritance, is seldom mentioned in dental anatomy texts. This narrow approach leads most dentists to regard teeth as inanimate objects with little variation of form and even less variation of function. Doctors Kraus, Jordan and Abrams remedy this deficiency while retaining some aspects of previous dental anatomy texts.

One-third of their book is devoted to traditional dental anatomy. It describes the primary and permanent dentitions in their respective classes of incisors, canines, premolars and molars. The use of the terms "canine" and "pre-molar" instead of "cuspid" and "bicuspoid" is commendable and more meaningful from the standpoint of biological and international terminology. Contrasts of traits are clearly drawn between different members of each class.

The text is lavishly illustrated with a large collection of unblemished "normal" teeth and some "abnormal" variations. Details of the teeth are portray-

ed by diagrams, direct photographs and photographs of precise plaster casts of the crowns. The latter technique reveals minute features that are obscured in direct photographs by the light-reflecting properties and translucency of enamel. Radiographs of the individual teeth would have further enhanced the excellent "atlas" aspect of the book.

Unhappily, tooth dimensions and eruption ages are not accompanied by standard deviations or ranges of variations. This creates a false impression of uniformity which contrasts sharply with other textual and illustrative material emphasizing the biological variability of teeth. It fails, moreover, to convey the diversity of dimensions and eruption dates that characterize the dentition.

A further weakness of the first section is the absence of any references to other literature in dental anatomy. This, too, is unlike the remainder of the work and detracts from its usefulness as a reference text.

Of the remaining two-thirds, a section is devoted to the histology of the teeth and periodontium. The physico-chemical and ultrastructural features of enamel and dentine are described with up-to-date information and excellent bibliographies, but cementum receives very sparse coverage. There is only brief allusion to the micro-embryology of the dentition, but there are lengthy excerpts on gross dental morphogenesis from the senior authors' previous book, *The Human Dentition before Birth*.

Functional features of the temporomandibular joint and the alignment and articulation of the dentition are well illustrated and described in a section on the masticatory system.

The last 50 pages introduce the reader to odontological phylogeny and ontogeny, thereby distinguishing this work from most other dental anatomy texts. The brief descriptions of comparative odontology and dental and general evolution of man are succinct and interesting. A surprising omission from this section, despite the earlier detailed consideration given to dental crown formation, is the exclusion of the "field concept" of dental morphogenesis. This oversight is all the more puzzling because P. M. Butler, the original proponent of the concept, is a contributor to this text. His theory, though not yet proven, could have been presented with some pro and con arguments.

The index is the most disappointing aspect of a book intended for students who need rapid access to the contained information. Omission of reference to such items as the Carabelli trait and perikymata, though mentioned in the text, calls for correction, as do several typographical errors which can mislead students.

These minor faults will no doubt be corrected in future editions which this

text fully deserves. Certainly, its wide perspective of dental anatomy makes the book eminently suitable as a primary text for students.

G. H. Sperber

The Chemical Physiology of Mucopolysaccharides

Giuliano Quintarelli, ed. Boston, Little Brown & Company, 1968. 240 p. Illus. \$(US) 13.50

This book records the proceedings of a symposium held in Milan, Italy, September 23-25, 1965, at which protein-polysaccharides of connective tissue were discussed. It contains 15 papers and, at the end of each, a record of the discussion that took place at the meeting. The authors of the papers constitute a select and respected group of scientists engaged in research into protein-polysaccharides.

A number of topics are covered. Among these are aspects of the chemical structure of protein-polysaccharides of connective tissues, including the nature of the linkage between the protein and polysaccharide moieties and the geometry of the macromolecule, the localization of the antigenic sites in the protein-polysaccharides of cartilage, and a discussion of the histochemical identification of acid mucopolysaccharides.

The problems of ion-binding by protein-polysaccharides, their interaction with collagen and other macromolecules, and enzyme-mediated changes of protein-polysaccharides during endochondral ossification are also discussed.

Though it provides a wealth of information on protein-polysaccharides of connective tissue, the book has one unfortunate drawback: it did not appear until 1968, two years after the meeting was held. Delay in publishing such a book, though not uncommon, detracts from its value to the small group of scientists who are particularly well informed about the subject. Nevertheless, the book will be useful to readers who are new or comparatively new to the field, and to scientists who are interested in connective tissues in general.

A. H. Melcher

Comprehensive Review for Dental Hygienists

Shailer Peterson, ed. Ed 2. St. Louis, The C. V. Mosby Company, 1969. 312 p. Illus. \$10.20

Comprehensive reviews are designed to aid students from diverse institutions

who must prepare themselves for a common examination. Such reviews are useful provided one does not rely too heavily on them in the belief that they will ensure success in the examination. The astute reader appreciates the value of a synopsis with a point of view that differs from opinion current in her own school. But a review should always stimulate further reading in areas where the student needs additional preparation.

Three dental hygiene review books are currently available. The other two books consist of multiple choice questions. Peterson uses the question-and-answer technique. This approach is preferable because more information can be included and because it does not restrict the reader to the narrow frame of reference inherent in multiple choice-answer reviews.

Any book with 18 contributors is bound to be somewhat uneven in quality and varied in approach. Indeed, some answers are so brief that a multiple choice format would have been preferable. Elsewhere, in the anatomy and physiology section, many questions could have been subdivided in order to reduce some of the inordinately long responses. Happily, most contributors have discerned how the question-and-answer review is written for maximum effort: a well defined question followed by a thorough, yet reasonably concise, answer.

This is the second edition of Peterson's book. Most sections are identical with the earlier edition. Some, like the chapter on oral prophylaxis and tooth deposits by Hine and Fisk, are significantly improved.

Details about state regulations for licensure and practice are quickly outdated and should not be included in a work like this. Indeed, the information on legally permissible operations by dental hygienists was already seven years old at the time of publication of the book. This kind of material can be furnished and updated less expensively by the Canadian and American Dental Hygienists Associations.

Dr. Peterson's introductory chapter is totally irrelevant to the purpose of the book and should have been deleted. The illustrations are decorative but serve no useful purpose. This is a pity, since judicious use of illustrations would have been an improvement in several instances.

Despite these shortcomings, *Comprehensive Review for Dental Hygienists* compares well with its two competitors. It is thorough, and the contributors are well qualified and oriented to the needs of dental hygiene students preparing for licensing examinations. Most students will likely wish to consult all three review books. If they choose only one, it should be this one.

Margery G. E. Forgay

Biology of the Periodontium

A. H. Melcher and W. H. Bowen, ed. London and New York, Academic Press Inc (London) Ltd, 1969. 563 p. Illus. \$21.00

This comprehensive text covers in detail the form, function and chemistry of the tissues comprising the periodontium. The 11 contributors review fundamental scientific and dental knowledge and provide information on many recent research projects. The 12 chapters are arranged in an orderly sequence beginning with the evolutionary process of the mammalian periodontium, followed by a thorough discussion of the constituent tissues and their interactions, and concluding with a comment on the healing potential of the periodontium and the uniqueness of the surrounding environment.

The illustrations and electronmicrographs are generally excellent. Comprehensive bibliographies are included at the end of each chapter.

This book would appeal especially to those engaged in advanced study of the periodontium. It can also serve as a reliable reference tool for the general practitioner and undergraduate student. The wealth of information is neatly related to clinical as well as research interests, and is presented in a very readable manner.

This book is unique in its field since it provides a thorough, up-to-date discussion not available elsewhere. By stating a number of fundamental unanswered questions and suggesting areas of future investigation, it offers a stimulus to further study.

W. H. Mills

An Introduction to Periodontia

H. M. Goldman and D. W. Cohen. Ed 4. St. Louis, The C. V. Mosby Company, 1969. 441 p. Illus. \$12.65

This fourth edition has been increased by some 50 pages and two new chapters have been added: one on the microbiology of the gingival sulcus by Courant and another on the interaction between occlusal traumatism and periodontitis. These chapters are brief but worthwhile additions.

Because of the rapid advances in microbiology, physiology and histopathology, no textbook can stay up-to-date. Nevertheless, the authors have tried to record the latest material available at the time of publication. This is reflected by descriptions of newer concepts about the epithelial attachment and its "adhesion" to the tooth as well as details concerning the role of muci-

nous plaque and bacteria. Though the latter have long been considered secondary to calculus in the aetiology of periodontal disease, this has now been remedied.

Like the three earlier editions, this is a very good reference book for the busy general practitioner but it has limited value for the undergraduate student. The text is too brief for the latter who would be better advised to use *Periodontal Therapy* by the same authors.

R. F. Harvey

Actinomycosis

Marcell Bronner and Max Bronner. Bristol, John Wright & Sons Ltd, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 228 p. Illus. \$13.50

Written by two dentists, this book is intended as a guide to dentists and oral surgeons in the detection and treatment of actinomycosis which, according to the authors, is becoming more frequent yet is often unrecognized by physicians and dentists.

The book consists of two parts. The first deals with theoretical aspects of actinomycosis, while the second contains more than 20 selected case reports of the disease. The technical production of the book is good. It is adequately illustrated, although the quality of the illustrations is not always of the highest standard.

Anyone with a special interest in actinomycosis will find information of value. The chapter on "Genus Actinomyces" by Waksman is exceptionally good. Unfortunately, these undoubted pearls of wisdom are hidden deep within a great deal of irrelevant padding; not the least of these are chapters on the discovery of antibiotics, penicillin, bacterial flora of the mouth, and *A. odontolyticus*—an organism found in advanced dentinal caries but possessing no direct relationship to clinical actinomycosis.

It is undoubtedly important that the oral surgeon know relevant facts about actinomycosis; but a busy oral surgeon is unlikely to wade through a mass of irrelevant detail to reach the relatively limited nucleus of valuable information which this book contains. The case reports are certainly of interest, but the book would command a much wider audience if these were merely prefaced by a concise statement about the essential aspects of the disease of direct interest to the dentist. As it is, I fear that few practitioners have the time to sort the wheat from the chaff. Consequently, the authors defeat their main purpose, which is to propagate knowl-

edge about a disease that is undoubtedly of prime importance to dentistry.

J. D. Spouge

Annotations

Dental Health Manual

Produced by the Dental Health Division, Department of National Health and Welfare, Ottawa. Queen's Printer, 1970. 46 p. Illus. \$1.00

Here is the latest version of the popular dental health teaching manual published by the Department of National Health and Welfare. Profusely illustrated and published in an eight and a half by eleven inch format, it covers such topics as foundation and permanent teeth, tooth structure and function, dental caries—how to prevent and treat it, malocclusion and periodontal disease, taking the child to the dentist, tumours and oral cancer, and other useful information.

Introduction to Inhalation Therapy

Stanton Belinkoff. Boston, Little, Brown & Co, 1969. (Available from the J. B. Lippincott Company of Canada Ltd, Toronto) 148 p. Illus.

This book encompasses the medical aspects of ventilatory therapy for physicians, nurses and technicians. It explains the principles of respiration and circulation essential to effective therapeutic management. Emphasizing diagnostic elements as well as method and techniques, the book provides a detailed description of principles and procedures used in inhalation therapy.

The Epidemiology of Dental Caries in Hungary

K. Toth. Budapest, Akadémiai Kiado, 1970. 283 p. Illus. \$10.00 \$7.00 paperback

This volume presents a comprehensive survey of the history of dental caries within a geographic unit, the Carpathian Basin. The description of the methods of research and classification is followed by a chapter on archaeological and palaeodontological findings tracing back the history of dental caries to pre-

historic times. Results of 17 years' investigations by the author are included. Connections between caries incidence and nutrition, pregnancy as well as the state of the central nervous and endocrine systems are dealt with, and a number of practical conclusions are drawn. The reader will find a comprehensive bibliography of the subject at the end of the book. This monograph is recommended primarily to dentists and those engaged in caries research, also for specialists in public health, epidemiology, archaeology and anthropology.

Analyse de livres

McCracken's Partial Denture Construction: Principles and Techniques

Davis Henderson et V. L. Steffel, Ed 3. St. Louis, The C. V. Mosby Company, 1969. 476 p. Illustré. \$17.05

Ce volume de base en prothèse partielle amovible couvre admirablement bien tous les aspects de cette discipline: diagnostic, plan de traitement, étude des classes, choix et dessins des reteneurs directs et indirects, des grands et petits connecteurs, préparation de la bouche, prescriptions et techniques de laboratoires, mise en bouche et corrections. Les auteurs traitent en plus du rebasage, des ajustements ultérieurs et du traitement de certaines situations sortant de l'ordinaire.

L'influence de William McCracken en prothèse partielle amovible fut vraiment transcendante durant les dernières 10 années puisqu'il est l'auteur généralement accepté dans l'enseignement nord-américain. La troisième édition de son volume, corrigée par Henderson et Steffel, deux de ses collaborateurs, a été publiée dernièrement. En substance, le volume contient toujours le même message mais certaines modifications importantes ont été apportées.

Les auteurs se sont efforcés de rendre la terminologie compatible avec le glossaire des termes usuels en prosthodontie. Ils ont ajouté ou rajeuni plusieurs illustrations. La présentation graphique a été grandement améliorée, ce qui rend la lecture plus agréable. Henderson et Steffel ont décrit de nouveaux matériaux et techniques et démontré de nouvelles formes de crochets et de squelettes. Il convient de noter que l'on a ajouté un chapitre traitant des relations dentistes-techniciens et de la façon de prescrire, une lacune qui existait dans les éditions précédentes.

L'addition la plus importante porte toutefois sur les moyens et techniques de diagnostic en prothèse partielle amovible. Cette nouvelle approche couvre beaucoup plus adéquatement la

phase de l'examen qui en soi est la pierre fondamentale de toute réhabilitation partielle fixe ou amovible.

Il est heureux de constater que les auteurs ont retranché les méthodes et théories désuètes mais qu'ils n'en contiennent pas moins de préconiser des procédés supérieurs comme l'empreinte de cire dans les cas de selles libres et ce, même si certaines institutions et professeurs n'ont pas adhéré à cette forme pour des pseudo raisons de difficulté d'accès et d'application.

Ainsi révisé le volume ne perdra sûrement pas de sa popularité dans les universités qui l'emploient déjà. Nous croyons de plus que le volume de McCracken devrait figurer dans la bibliothèque du dentiste moderne comme le livre de choix en prothèse partielle amovible. A ceux qui ne l'ont pas déjà nous conseillons fortement cette dernière édition.

Françoise Michaud

Glossaire des termes pharmaceutiques

Etabli par le Comité d'étude des termes de médecine. Vol 4. Montréal, Laboratoires Ayerst, 1969. 55 p

Depuis six ans le Comité d'étude des termes de médecine avec la collaboration de l'Office de la langue française a rédigé quatre glossaires qui ont pour but d'améliorer la langue médicale et pharmaceutique. Les Laboratoires Ayerst ont gracieusement participé à la publication de ses travaux.

L'avant-propos du Glossaire des termes pharmaceutiques résume la pensée qui a motivé la publication de ces ouvrages:

"Au cours de ces années, le Comité a mené ce qu'il estime être le bon combat, luttant contre l'envahissement du langage médical par des termes empruntés à la terminologie anglo-américaine et contre les anglicismes de mot ou de pensée qui transforment la langue française en un impénétrable jargon".

Le glossaire catalogue la forme correcte, la forme fautive, l'expression anglaise et donne ensuite la justification de son choix.

"L'Ordre des pharmaciens" constitue un exemple intéressant. La forme fautive est "le Collège des pharmaciens". La justification donnée est la suivante: "Le mot collège ne peut désigner, en français moderne, l'organisme de réglementation professionnelle que forment les membres d'une même profession. Il est d'usage d'utiliser le nom d'Ordre: l'Ordre des médecins, l'Ordre des infirmiers et infirmières, l'Ordre des pharmaciens. On emploie le mot Collège pour désigner un organisme d'enseignement: "le Collège de médecine des hôpitaux de Paris".

Ce glossaire ne constitue pas seulement un instrument de travail de grande valeur mais peut être lu par tout praticien qui veut dénicher les fautes courantes qui ont envahi notre langage quotidien.

Marcel Tenenbaum

Additions to the Library

ASSOCIATION OF CANADIAN FACULTIES OF DENTISTRY, The - L'ASSOCIATION DES FACULTES DENTAIRE DU CANADA. Registry of post graduate and graduate dental studies in Canada universities, March 1970. Halifax, NS, 1970. 42 p.

BUSH, J. B. and SCHWARZROCK, S. P. Workbook for effective dental assisting. Ed 2. Dubuque, Iowa, Wm. C. Brown Co Publishers, 1967. 242 p. Illus. \$4.95

DENTAL CLINICS OF NORTH AMERICA, April 1970. Symposium on patient education and communication. Vol 14, No 2. Pages 219-437. Illus.

GOTH, A. Medical pharmacology; principles and concepts. Ed 4. St. Louis, Mosby, 1968. 749 p. \$15.95.

GROSSMAN, L. I. Endodontic practice. Ed 7. Philadelphia, Lea & Febiger, 1970. 483 p. Illus. \$14.25

HARVARD UNIVERSITY. SCHOOL OF DENTAL MEDICINE. Oral health; facts, figures, and philosophy. Selected papers from the Centennial Observances of the Harvard School of Dental Medicine, held during the spring of 1967. (Harvard Dental Alumni Bulletin, Special Suppl Nov 1968) Boston, 1948. 57 p.

HESLIN, P. L., MEEHAN, T. G., ALLEN, F. J. and O'SULLIVAN, C.A. The fractured incisor. Dublin, Journal of the Irish Dental Association, 1968. 59 p. Illus.

HOTZ, R. Appareillage fixe en orthopédie dento-faciale; technique et méthode. Traduction de P. L. Rousseau. Paris, Julien Prélat, 1967. 107 p. Illus. 32 F.

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH. Program and abstracts of papers, 48th general meeting, March 16-19, 1970. New York, NY. Chicago, 1970. 256 p. \$3.00

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH. Conference

on specific questions related to periodontal diseases, sponsored by the National Institutes of Health Dental Study Section, Bethesda, Maryland, September 8, 1969. (Journal of Dental Research, Supplement to Vol 49, No 2, 1970) Pages 191-275.

KERR, D. A., ASH, M. M., Jr and Millard, H. D. Oral diagnosis. Ed 3. St. Louis, Mosby, 1970. 388 p. Illus. \$16.25.

LANTNER, M. and BENDER, G. Understanding dentistry. Boston, Beacon Press, 1969. 214 p. Illus. \$7.50

MELCHER, A. H. and BOWEN, W. H., ed. Biology of the periodontium. London, Academic Press, 1969. 563 p. Illus. \$23.00

MILLER, S. L. Legal aspects of dentistry; a programmed course in dental jurisprudence. New York, G. P. Putnam's Sons, 1970. 427 p+Appendix+Index. \$9.25

ONTARIO DEPARTMENT OF HEALTH. Report of the activities of the Ontario Council of Health. June 1966 to December 1969. 118 p. Plus 8 different studies.

PELTON, W. J. et al. The epidemiology of oral health. Cambridge, Mass, Harvard University Press, 1969. 167 p. Tables. \$7.50

RAHN, A. O. and BOUCHER L. J. Maxillofacial prosthetics; principles and concepts. Toronto, Saunders, 1970. 266 p. Illus. \$23.25.

REPORT OF THE COMMITTEE ON THE HEALING ARTS, established by the Province of Ontario. Vol I, II, III. Plus 10 various studies. Toronto, The Queen's Printer, 1970.

ROBERTS, B. Research in educational aspects of health programmes; its relationship with professional education and practice. (International Journal of Health Education. Suppl to Vol XIII-Issue No 1, Jan-March, 1970) 33 p.

SCHULTZ, R. C. Facial injuries. Chicago, Year Book Medical Publishers, Inc, 1970. 264 p. Illus. \$15.95

SICHER, H. and DuBRUL, E. L. Oral anatomy. Ed 5. St. Louis, Mosby, 1970. 502 p. Illus. \$19.25.

STACY, G. C. Dental elevators; principles for safe usage. Sydney University Press, 1968. 64 p. Illus. \$5.05

Readers, writers and editors

As guardian of the Canadian Dental Association's principal avenue of communication, the editor spends much of his time bringing writers and readers into contact. Mindful of his obligations to the reader, he tries to aid the sometimes hesitant author in putting his message into its most usable form.

What are the respective rights of the two parties in this collaboration? The Journal's instructions to contributors are explicit on this point: "The editor reserves the right to fit articles within the space available and to make the usual editorial alterations to manuscripts; these include such changes as are necessary to ensure correctness of grammar and spelling, clarification of obscurities or conformity to Journal style."

The ensuing division of labour is fair. It leaves to each the work which each is best qualified to do. The facts, hypotheses, interpretations and conclusions — in short, the content — are the author's responsibility; the design, reflected by details of presentation, internal arrangement, syntax and punctuation, is the editor's.

Dental articles must be well designed if they are to make a sharp, indelible impression on the reader. It is in the matter of design that the editor, by virtue of training and experience, can be a real colleague and a sympathetic ally.

Graham¹ expressed it neatly when he wrote that an editor "tramps through the literary edifice from cellar to roof, testing every joint, tapping every panel, setting his level against every beam to establish, as far as he is able, that the workmanship is true."

This analogy between editor and building inspector is instructive: each, as he works, has in his mind's eye a prototype and pays particular attention to structural variations and irregularities. The builder wants assurance of strength, efficiency and function; the editor is concerned with utility, unity and clarity. In either case, if the variation encountered is sound, it is left alone.

But in the course of his labours, an editor from time to time encounters authors who spurn the crisp-

ness of good writing and adorn a simple tale with dreary clichés and rambling redundancies or smother it under a blanket of jargon. Some adherents of this school insist that their manuscript should proceed toward publication without amendment, and that no one has a right to tamper with their "style." This, of course, is not style. In his office as proxy for the reader, the editor's principal demand is that the author make his meaning crystal clear. A well written article should surrender up its message at a glance; it should "reflect its meaning as in a mirror."²

The decisive matter is clarity. Style, however exotic, will not be disturbed if the meaning is clear. But if an article fails to pass this simple test, the editor has no choice but to take the sentences apart and put them together again until the message is suitably clarified. Mercifully, when his initial irritation has passed and he has considered the editor's work, the author usually accepts the proffered help gratefully and the author-editor collaboration, upon which dental communication in no small way depends, proceeds.

Perhaps in some enlightened age that has yet to come all dental writers will govern themselves by Graham's golden rules:³ (1) "Have something to say that really needs to be said." (2) "Say it in the minimum number of words compatible with clarity and readability." (3) "Stop when you have said it." Until that happy day, the editor must continue to serve as a literary referee who does his best to keep the hurried, harassed writer "honest." Dental writing, after all, should be carried out with due care and skill. The reader as well as the patient deserves one's best effort.

1 Graham, D. C. Medical journalism. IX: What the medical editor does. *Canad Med Ass J* 93:82, 1965. Editorial.

2 Lewes, G. H. The principles of success in literature. In: Steffan, G., Doran, M. and Trowbridge, H., ed. *Studies in prose*. New York, Rinehart & Company, Inc, 1939.

3 Graham, D. C. Medical journalism. VIII: Boiling it down. *Canad Med Ass J* 92:1230, 1965. Editorial.

L'équipe de la santé

Le médecin seul ne peut ni maîtriser toutes les connaissances générales de base nécessaires, ni être disponible constamment. L'expérience de la médecine d'équipe en milieu hospitalier et de la médecine de groupe, que nous connaissons actuellement au Québec, démontre qu'il ne suffit pas de réunir un certain nombre de personnes pour former une véritable équipe. Le type d'équipe qui remplit les fonctions du niveau des soins généraux doit réaliser les trois conditions suivantes:

1. *Objectifs communs*: le concept de médecine globale doit être reconnu et appliqué par tous les membres de l'équipe en fonction des besoins de la population desservie.

2. *Complémentarité*: les membres doivent se compléter mutuellement quant à leur formation et aux fonctions à remplir, de sorte que l'équipe elle-même satisfasse les besoins de la population par des services complets et continus.

3. *Coordination*: les activités de chacun, quant à la fiche de santé de chaque individu ou famille en fonction de ses besoins exprimés et réels, doivent être discutées et révisées régulièrement par l'ensemble des membres de l'équipe.

Dans tous les secteurs de l'activité humaine et même dans la recherche, le besoin d'équipes multidisciplinaires sous un leadership souple et bien défini se fait sentir et la formule donne généralement d'excellents résultats. Le régime de la santé devra favoriser par tous les moyens disponibles la mise en place d'équipes multidisciplinaires. Ces équipes assureront en grande partie les soins généraux aussi bien à l'extérieur qu'à l'intérieur des centres de santé.

Nous ne croyons pas à des formules idéales ou absolues pour la composition de l'équipe de la santé. Selon les conditions locales de main-d'oeuvre, de densité de la population, de moyens de transport, ces équipes pourront, dans les unités de soins généraux, être plus ou moins nombreuses et logeront au sein

même d'un centre communautaire de santé ou à peu de distance.

Selon nos connaissances dans ce domaine, il est permis de suggérer une équipe minimale de trois à cinq médecins, d'infirmières cliniciennes et de quatre à 10 infirmières à responsabilité plus importante, et d'un travailleur social (au moins un à temps partiel). La présence de dentistes et d'assistants dentaires intégrés à l'équipe est éminemment souhaitable, sinon essentielle.

Une unité de soins généraux ainsi constituée peut répondre à 80 ou 90 pour cent de la demande de soins selon le concept de médecine globale et laisse suffisamment de temps aux membres de l'équipe pour des réunions régulières de travail et l'enseignement continu.

L'équipe peut être beaucoup plus importante si elle dessert un secteur plus peuplé. D'autres professionnels de la santé peuvent se joindre à l'équipe de base à plein temps ou à temps partiel. Cependant, il est possible que plusieurs équipes de base constituent une unité de soins afin de favoriser une organisation fonctionnelle et intégrée.

Afin de tenir compte des attitudes et des besoins de la population des diverses régions, le régime de la santé et le système d'enseignement auquel il se rattache doivent former les divers types de personnel requis pour des fonctions précises et innover dans la composition des équipes de la santé et dans la répartition des tâches et des responsabilités. L'évolution actuelle de l'organisation des soins généraux permet un grand nombre d'innovations au niveau de leur distribution.

Gouvernement du Québec. Rapport de la Commission d'enquête sur la santé et le bien-être social. Une politique de la santé. Vol IV. Tome II. P 32. Québec, L'Éditeur Officiel du Québec, 1970.

Letters/Courrier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association Dentaire Canadienne. Vous êtes invités à participer à cette section du Journal.

Caries in Eskimo children

The article on caries prevalence in Keewatin Eskimo children (Curzon and Curzon, September Journal) is interesting because the authors' situation closely paralleled my own with British Columbia Indians in 1962-3.

The findings again illustrate the atrocious damage wrought by dental caries in situations marked by a high carbohydrate diet along with an almost total absence of home care and other preventive measures.

The article is important in terms of public health and from a sociological standpoint. It underlines once again the urgent need for a full scale preventive program for Canadians who live in isolated communities far from any access to regular dental treatment. There are many measures which can be applied to reduce dental caries. Most of them can be used in these communities and augmented, where possible, by an annual visit from a dentist or a dental hygienist.

With this in mind I would be particularly interested to know the policy of the Department of National Health and Welfare in its dental care programs for the Indian and Eskimo people. I am sure that most members of the profes-

sion share my concern over the statistics reported by Curzon and Curzon and in other such surveys, and I would like to know how far preventive measures—including full scale use of therapeutic fluoride—now supplement the treatment programs provided in the past.

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Oral tuberculous lesions

Doctor Muroff's report, "Tuberculous Lesions of the Oral Cavity" (October Journal), is timely.

With effective control in North America, we have developed a generation with little or no immunity to the disease. Should an outbreak occur, it could have serious repercussions in isolated population pockets. Periodic outbreaks in the past 10 years have presented a serious hazard in the affected communities. A high percentage of children in one classroom, for example, had to be treated in a sanatorium in this province because they contracted tuberculosis.

With the ever-present possibility of this happening, dentists must be constantly alert. They should be suspicious of oral lesions indicative of this disease.

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Dental education

One fascinating aspect of dental and medical education is the speed of changes therein. Outstanding, of course, is the unvarying nature of much of the work that has to be done in both fields. The dental student today is taught many things that he would have learned in 1905. One cannot say the same about aeronautical engineering.

Perhaps the most significant move in recent memory is the evolution of the health science complex. This is pictured as one big happy group of health personnel who fall upon the unfortunate patient one after the other, each doing his thing. So, if you arrive on the doorstep with a gallstone you are likely to depart without that gallstone but with a partial denture.

But the real world is not like that at all! Medical care these days in Canada is generally free. In nearly all the provinces, one way or another, you can have a leg cut off for practically nothing. But if you have to have your teeth looked at, it costs a small fortune (as the patients claim!). It is more popular to

go to a hospital than to the dentist. And the sale of toothbrushes certainly isn't commensurate with the sale of tranquilizers.

Happily, the pace of change in dental and medical education operates to prevent any drastic misfortunes in the educational field. We have always regarded this conservatism as showing how sane, far-seeing and wise our educators are—they taught us, after all, and we are pretty smart! But is the Peter Principle at work in our dental and medical schools? This recent sociological syndrome suggests that academic promotion leads to incompetence at the job finally attained. Consider that an educator receives his increases in salary or promotion by displaying his prowess at getting things published. Sometimes it doesn't really matter what he writes as long as it appears in print. Then he is either promoted or demoted according to the whim of a promotions committee.

Many dental and medical educators may be very good researchers and writers but very poor educators. As a consequence, progress is slow and, though the health science complex idea caught fire in the late fifties, none are yet fully operative in Canada. Perhaps the bloom has gone off the peach, and those who were so good at designing these structures have now been promoted to jobs where, having reached their level of incompetence, they are much less effective. Thus a very successful assistant professor becomes a less competent associate professor and perhaps a complete failure as a professor.

What I wish to point out is that the present system of medical and dental education is highly suited to its task. Changes occur in response to alterations in treatment methods and not to "will of the wisp" educational principles. In the last 30 years the innocents of Grades 1, 2 and 3 have had to endure at least three or four educational systems inspired by such principles. Imagine the confusion if we had applied similar principles to the education of medical and dental practitioners! One might picture the dentists who graduated in 1953-56 solving dental caries by reading radiographs; another group (1956-59) treating everything with vitamin C; the graduates of 1960-63 cutting all cavities with round burs; and those of 1963-66 filling everything with plastic restoratives! A solution for the apical abscess would obviously be five million units of the latest antibiotic in the but-tock, and so on.

This will explain why dental schools have failed to keep abreast of modern education; I am thankful for it. If no further changes occur in the next 10 years, we will have turned the full circle and our dental school will then be avant-garde! I only hope that the legislators out there are listening.

Jean Gives

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

At the end of September President Bill Spence began his visits to dental groups in eastern Canada. I accompanied him to meetings in Sault Ste. Marie, Charlottetown and Gander, Newfoundland. Doctor Spence continued on to Sydney, NS, and Quebec City before returning to Toronto.

Voluntary conjoint membership

At each meeting the president's address and the subsequent discussions focused on "individual voluntary conjoint membership" in local, provincial and national organizations.

You will recall that government reports in two provinces have called for the separation of licensing fees (which are mandatory) from membership dues in professional associations (which should be voluntary). The CDA Board of Governors at Winnipeg therefore approved the principle of voluntary conjoint membership and invited the corporate members to do the same. The Council on Constitution and By-laws was also directed to draft a by-law amendment to accommodate provinces that need or wish to change to the new system as well as those that prefer to continue under the present arrangement.

Voluntary conjoint membership, as used by the medical profession in Canada and by the dental and medical professions in the United States, is very different from our present system. It deserves careful consideration by every Canadian dentist.

Prince Edward Island productivity study

While visiting Prince Edward Island, we looked at the dental productivity experiment which is in progress

there. Doctor Bob Romcke, the island's director of dental services, took us to several private offices and to a public health school clinic where dentists are aided by hygienists with special training in additional duties. These hygienists have had two months' special postgraduate instruction at Dalhousie University, Halifax. Their duties include rubber dam procedure, matrix placement, inserting plastic fillings and other similar tasks. The quality and productivity of preventive and treatment services rendered by a team consisting of a dentist, a specially trained hygienist and two or three dental assistants is being compared with similar services provided in conventional practice.

We were impressed by the high standard and the apparent gain in productivity resulting from the new team approach. A progress report from Doctor Romcke is expected soon.

Newfoundland children's dental plan

The Newfoundland Dental Association has persuaded its provincial government to extend the availability of dental services to all children between the ages of five and eight. The government will now pay for their treatment by a private practitioner regardless of whether or not the parents can afford to pay. Dentists will be recompensed according to a specially negotiated fee-for-service basis. This plan could be a step in the direction of "denticare," even though it may be long before all Newfoundland children can take advantage of the program.

Bucharest: the FDI Meeting

From Newfoundland I travelled directly to Bucharest, Rumania, where, along with Past President Hector MacLean and Lloyd English, a member of our Executive Council, all three of us served as your official delegates to the 58th annual session of the Fédération Dentaire Internationale. About a dozen other Canadian dentists and their wives were also in attendance, participating in an interesting scientific and social program held in a land whose social and political philosophy differs markedly from our own.

Doctor MacLean and I participated on the scientific program where his paper on "The Team Approach to Dental Practice" received high acclaim. My contribution dealt with dentistry's public relations with other health professions.

Bucharest drew some 1,550 dentists from 40 different countries. A full report of the meeting will follow at a later date.

While in Rumania, we also looked into the organization of dental practice in that country — a subject on which I will comment next month.

On September 3 the Government of Quebec released the latest report of the Castonguay Commission. The four volume report advocated major revision in the province's health care delivery system. Among other things, it denounced fee-for-service payment and proposed that Quebec physicians be put on a salary instead. The report said: "At present, a large part of the distribution of care is tied to the treatment of the active phase of illness. The mode of payment per service is the chief explanation of this. It favours certain specializations which, as a result, attract the largest number of doctors. Preventive and re-adaptation work are altogether neglected by this system." The report went on to say that "the advantages of salary — security, retirement, vacation, longer careers that are less hard on the man — compensate for the present advantages doctors have." Because of its potential impact on the dental profession, the Journal invited Doctor A.M. Hunt, Toronto, and Doctor R.O. Brett, Regina, to comment on this latest proposal from the Castonguay Commission.

Optional methods of remuneration are necessary

I have been invited to comment on methods of remuneration of health professionals—a subject of active debate by the medical profession and one which should receive close attention from dentists.

Malcolm Reid, writing in the September 4 Toronto *Globe and Mail*, highlighted some views from Quebec's Castonguay Commission which recommended a departure from the traditional fee-for-service method of payment. I was unable to secure the commission's report before preparing this review; therefore it would be injudicious to comment directly without studying the commission's underlying philosophy. However, we can discuss the points raised by Mr. Reid, as summarized in the editorial preamble at the head of this page.

Fee-for-service has helped to fashion a health service which pays more attention to repair than to the health needs of the population. An 1860 fee schedule, for example, shows that the largest fees were paid for complete dentures, a terminal service, whereas cleaning the teeth, a preventive service, commanded the smallest recompense. This discrepancy has not changed perceptibly in the last 100 years.

Fee schedules also tend to dictate utilization patterns. When Nova Scotia's Maritime Medical Care Inc adjusted its fees, raising some and lowering others, the higher fees were soon followed by increased utilization of the affected services.

The federal government's Task Force on the Price of Medical Care¹ doubts whether there is any theory behind the design of present-day fee schedules. These probably developed haphazardly from fees charged by a majority of doctors in a given area. And the task force regards relative value studies to codify patterns of charges as little more than a codification of the

status quo. It assessed the salary and capitation methods of payment. Salaries were deemed suitable in hospitals where the patient load is relatively constant but termed unworkable in solo private practice. Capitation had much to recommend it in large group practices which include hospital care. But Canadian medical practice cannot be divided into neat compartments, with specialists responsible for hospital service and general practitioners providing care outside the hospital. And the task force did not offer an alternative to fee-for-service payment.

Governments, meanwhile, must grapple with the rapid escalation in health service costs. If present trends continue, the net earnings of active fee practice physicians will rise from \$23,262 in 1968 to \$67,900 in 1980. Whether or not their earnings will be in keeping with the economy at that time is not known. However, governments will no doubt try to impose checks and balances on professional incomes.

Ontario's Committee on the Healing Arts,² while not expressing a judgement on the adequacy of fee schedules, nevertheless urged the province to participate in formulating such schedules in order to avoid possible conflict between the economic interests of professions and the general public interest. It, too, alluded to the structure of fee schedules and their influence on the desire to specialize and on the type of service provided.

Governments that are now scrutinizing methods of payment for medical services will turn their attention to us when they are ready to add dental benefits to government supported prepaid plans. I therefore urge the profession to be well armed for the inevitable negotiations. We can be—by giving intensive study to the whole spectrum of payment mechanisms for dental services.

New service outlets may be needed to meet the needs of special groups. A salaried service or one that

is based on part-time salaried staff may be the only solution for certain dental care requirements.

Elsewhere, fee schedules may have to be restructured so as to favour preventive and maintenance care rather than terminal treatment. Such schedules would constitute a relative health value schedule.

And finally, the eventual possibility of negotiating a system with fee-for-service, salary and capitation options seems much more attractive than the present situation in Quebec where the government may impose an exclusive salaried service.

- 1 Canada. Task Force reports on the cost of health services in Canada. 3. Health services: price of medical care. Ottawa, Information Canada, 1969.
- 2 Ontario. Report of the Committee on the Healing Arts. Vol 3. Toronto, Queen's Printer, 1970.

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Salaries are unacceptable

The two commissions which studied health care problems in Ontario and Quebec evidently feel that medicine as practised today is wrong and that governments can run things much better. Nothing could be further from the truth. Free professions, operating under private enterprise, have given this continent the highest standard of health in the world. The system certainly has its faults, but the resultant high standard of medicine speaks well for those who developed it.

Let us look for a moment at Saskatchewan, the province with the longest history of compulsory medical insurance. While our politicians brag about their medicare plan and what it has done for the people, they prefer not to be reminded of its many serious problems—problems like the initial loss of 45 per cent of the province's specialists and experienced general practitioners; the soaring costs of "total medicine;" the dwindling trickle of Canadian-born practitioners coming to Saskatchewan (only 20 per cent of the province's present physicians are Canadian-born); and the medical graduates from the University of Saskatchewan who leave the province in droves (90 per cent currently intern or practise elsewhere).

The government that brought medicare to Saskatchewan was very wrong in not seeking the advice of the medical profession and establishing a joint committee to formulate a compatible plan. Had that government tried to cooperate, our situation would be much brighter today. There would have been no exodus of physicians; our province would have had a lot more practitioners today; and many more new graduates would have stayed here. Moreover, I am convinced

that our politicians would have been able to point to a much better medicare record.

We look on freedom as something to keep and cherish. We believe that civil rights must be respected. Yet Quebec's Castonguay Commission threatened that province's physicians by refusing to compensate their patients if their doctors practise outside the Quebec medicare plan and by advocating salaried remuneration. Is this freedom? Will the people of Quebec be better served by intimidated physicians forced into an alien mould of medical practice? Will Quebec politicians accept the responsibility of supplying health services after they infuriate every member of the medical profession? Will physicians leave Quebec, as they have left Britain, in large numbers? And if "salary only" medicare is so good, why is Sweden now switching from this system to fee-for-service?

Political medicine without cooperation from the medical profession is bound to be bad medicine. And it is the people who suffer when politicians serve up medicare that is manned by disgruntled physicians!

How will Quebec replace specialists who may leave? Is the province prepared to recruit and train other physicians, and will they be happy to work in Quebec for much less than they can earn elsewhere? Will the province's students pursue other vocations that are economically more attractive and less subject to external intervention? And will parents still encourage their children to enter medicine—especially if future students are forced to pay a higher share of the cost of tuition?

I raise these questions because I fear that Quebec could eventually be saddled by a plan without doctors if its government carries matters to the ultimate point: universal health care and physicians compensated by capitation, as in England. I fervently pray that this may never occur, and I hope that the Quebec government will have had a change of heart by the time this Journal goes to press. I also hope it will preserve the basic freedoms of the province's physicians and allow them to join in drawing up a universal medicare plan which both parties can implement!

But what does this mean for our profession? We have two choices. We can either accept the inevitability of government control, or we can try to persuade our political masters that autonomous professions co-operating with but not controlled by governments can best serve the public interest. This kind of persuasion will require constant dialogue with our patients and with governments.

I also cling to the hope that politicians, after examining the faults of compulsory medicare plans in other countries, will eventually return to the kind of approach which permits men with initiative and vision to build a better health system for the people of Canada.

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Regina, Sask*

The Association

Dental students hold second national conference

Student representatives from the various Canadian dental schools met at CDA Headquarters in Toronto and in the Faculty of Dentistry, University of Western Ontario, London, October 21-24 for the second national Canadian Dental Students' Conference.

The conference was sponsored by the CDA Council on Education's Student Membership Committee. Financial assistance came from the Canadian Fund for Dental Education through a special grant from Colgate-Palmolive Ltd.

Conference topics included: a discussion of last year's conference, a report of the International Dental Students' Conference in Berlin in August 1970, internships and research, and student-faculty liaison. Delegates led their own discussion groups for the remainder of the conference, with subjects ranging from a formal structure for Canadian dental students' organizations to financial assistance for dental students.

The second day's sessions were held in the Faculty of Dentistry, University of Western Ontario, where the delegates toured the health science complex.

The business sessions were preceded by an evening reception on October 21, tendered by the Ontario Dental Association. At a dinner tendered by the Canadian Dental Association on the following day, delegates met CDA President W. J. Spence and M. E. Bower, chairman of the Canadian Fund for Dental Education.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on September 30:

Fixed Income Fund \$10.462;

Common Stock Fund \$20.692.

Total assets (market value) of the plan were \$8,610,939.76.

The following portfolio purchases and sales occurred during the preced-

ing month: bought 1,000 shares Corning Glass Works; 3,000 shares Thomson News; and 2,500 shares Commonwealth Holiday Inns of Canada; sold 5,000 shares Shell Canada A and 5,000 shares Inter Island Resorts.

February 28, 1971, is the final date for contributions to the CDA Retirement Savings Plan for the 1970 taxation year. Money received after that date must be credited to 1971. Readers are urged to send their contributions early and mail them direct to Canadian Dental Service Plans Inc, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

Immigrant dentists say "thanks"

Fourteen Czechoslovak dentists who completed a retraining program at the

University of Western Ontario earlier this year have said "thank you" to those involved in the program.

"We, the group of Czechoslovakian dentists who entered Canada in the fall of 1968 after the unfortunate circumstances again affecting so adversely our country," begins a letter recently received by the UWO Health Sciences Department, "would like to express our feelings of appreciation and deep gratitude to all the people who made the course and its success possible."

The letter was written by Richard Jezdinsky, now practising in Cochrane, Ont, on behalf of himself and the other Czech refugees who completed the 10 month course in June. It was addressed to H. O. Warwick, UWO Vice-president of health sciences.

The dentists came to Canada in August 1968 under the Czechoslovakian refugee program. After running into licensing difficulties, the Royal College of Dental Surgeons of Ontario, the On-



Seventy dentists and their wives were present September 14 when former CDA Executive Director Don W. Gullett received the Elmer S. Best Memorial Award of the Pierre Fauchard Academy at a formal ceremony in the US Embassy Residence, Ottawa. Pictured from the left are H. A. Hartman, Cleveland, Ohio, PFA treasurer; US Ambassador Adolph W. Schmidt; Doctor Gullett; A. J. Kershaw, Jr, West Warwick, Rhode Island, PFA vice-president; and C. H. M. Williams, Toronto, who won the Best Award in 1965.



When Her Majesty the Queen visited Swan River during Manitoba's Centennial celebration this summer, she was escorted by Mayor L. F. Matthews who has a busy dental practice in the town. In the background is H.R.H. Prince Philip. The photograph was supplied by J. Henderson of Radio Station CKDM Dauphin, Man.

tario health department and the federal Departments of Defence, Manpower and Immigration established a special course at UWO to qualify them for practice. Sixteen enrolled, but two dropped out before it was completed.

The letter concludes, "We appreciate . . . establishing the course and . . . the successful running of it. All the members of the teaching staff have given us much that we will never forget . . ."

"We understand that a similar chance has never before occurred to anyone in the history of Canada. Canada has become our new home and we feel proud that we were given this chance and that we accomplished our goal."

The dentists, five of them women, all signed a contract to practise in a northern Ontario town for three years and have set up practices in various locations in that area.

Canada-wide nutrition survey begins in Ottawa

The federal government's Nutrition Canada survey team began a two year study of Canadian dietary habits and nutritional status on October 3 in Ottawa.

The national survey will assess the nutritional status of Canadians through

dietary interviews, laboratory tests, medical and dental examinations and body measurements that reflect growth and development. It will also determine the level of food additives, non-nutritive substances and pesticide residues that people consume.

During the next two years, two survey teams (one working in English, one bilingual) will travel across Canada gathering information from 21,000 Canadians. Final evaluation of this data will be made in late 1972 and 1973.

The survey will be conducted in five regions: Ontario, Atlantic, Quebec, Prairies and British Columbia. Population samples based on age, sex and family income have been selected by the Dominion Bureau of Statistics from 80 enumeration areas in each region. An autumn-winter and a spring-summer study in each survey region will determine seasonal variations in dietary patterns.

Williams Gold of Canada expands its plant

A major expansion and modernization of its facilities has been announced by Williams Gold Refining Co of Canada Ltd, Fort Erie, Ont. New construction now under way in addition to a recently

purchased building will more than triple the space of the company.

The company's president, L. C. Williams, says the growth will enable Williams to isolate several aspects of production and centralize order flow and materials handling procedures, assuring prompt shipments.

Much of the expansion will be devoted to the operation of the Williams-Justi Division, including porcelain and plastic teeth and encapsulated dental products. Besides new equipment, the area will feature a special colour-corrected lighting system for shade control of the products.

International Items

Oral surgery conference set for next May in Amsterdam

The Fourth International Conference on Oral Surgery, sponsored by the International Association of Oral Surgeons, will be held in Amsterdam, The Netherlands, May 17-21, 1971.

Scientific highlights of the conference will include symposia on benign central lesions of the jaws and the maxillary sinus, five daily scientific sessions with 100 participating speakers from all over the world, and a motion picture program with 25 of the latest international films on oral surgery. Also available will be post-conference tours to several Dutch clinics.

Information on travel, housing and post-conference tours may be obtained from Inter Scientias-USA, 634 Keeler Bldg, Grand Rapids, Michigan 49502, USA. The conference program and registration forms may be obtained by writing direct to the Secretary of the Fourth International Conference on Oral Surgery, Congressbureau Inter Scientias, PO Box 9058, The Hague, The Netherlands.

Dental Organizations

Doctor Speck heads periodontology group

J. E. Speck of Toronto has succeeded S. Golden, also of Toronto, as presi-



Officers of the British Columbia College of Dental Surgeons posed for this picture when they met in Vancouver September 21-22. Shown, from the left, are: M. J. T. Dohan, Victoria, vice-president; G. A. Freeze, North Vancouver, president; J. S. Craib, Vancouver, vice-president and R. A. Mitchell, West Vancouver, treasurer.

dent of the Canadian Academy of Periodontology. A. Winnick, Toronto, is president-elect and J. D. Stewart, Peterborough, continues as secretary-treasurer.



J. E. Speck

London dentists elect Doctor Currie

The London and District Dental Society has a new president in the person of F. V. Currie who succeeds C. S. Whitman. Other officers for 1970-71 are A. W. E. Cluett, president-elect; W. A. Dinniwell, secretary; and B. R. W. Smith, treasurer.

Calzonetti, recording secretary; J. K. Hunter, corresponding secretary; E. D. Ksiazek, treasurer; R. Muirhead, chairman of Program Committee; V. Schacher, editor; and A. H. Leckie, archivist. Directors are S. Holick and W. E. Polos.

Hamilton Academy has new officers

The new president of the Hamilton Academy of Dentistry is M. W. Saunders. He succeeds E. A. Harper. Other officers named with Doctor Saunders are: W. J. Gregus, vice-president; A. J.

New society for clinical hypnosis formed

Some 40 dentists and physicians from Buffalo, Hamilton, Oakville, Toronto and as far afield as North Bay attended the founding meeting of the Ontario Society of Clinical Hypnosis, September 12-13, at Brock University in St. Catharines.



The Council of the College of Dental Surgeons of British Columbia held its first meeting of the 1970-71 season at Vancouver September 21-22. The picture shows, seated from the left: A. M. Hayes, D. E. Waller, L. W. Beamish, J. J. Eakins, M. J. T. Dohan, G. A. Freeze, J. S. Craib, R. A. Mitchell, W. D. McDougall, T. J. Harrop and D. G. Marshall. Standing, from the left, are: R. J. Warshawski, J. L. Hornibrook, V. M. Erickson, D. E. A. Black, F. A. Fergie, T. W. James, A. E. Swanson, J. L. Loughlin and R. N. Hicks.

Speakers at a concurrent workshop were Kay Thompson, a Pittsburgh dentist, and Robert Pearson, a psychiatrist from Traverse City, Michigan, and current president of the American Society of Clinical Hypnosis.

Two dentists were elected to the executive of the new group. They are R. E. Stasiak, vice-president, and W. Tytaneck, secretary-treasurer, both of St. Catharines.

The new group will become a component of the American Society of Clinical Hypnosis which has its headquarters in Minneapolis. Similar groups exist in three other provinces — British Columbia, Alberta and Saskatchewan.

For further information, please write to W. Tytaneck, 7 Welland Ave, St. Catharines, Ont.

Dental Education

CFDE month off to a good start

Dentists across the nation are responding generously to the Canadian Fund for Dental Education's appeal for funds to advance dentistry. Early returns show a 36 per cent increase in contributions over the corresponding period last year.

At this year's annual meeting the trustees approved \$45,000 for teacher training fellowships, \$12,500 in unrestricted grants to dental schools, and \$12,300 to finance research, teaching and students' conferences.

New projects funded in 1970 include a \$7,000 grant to the Association of Canadian Faculties of Dentistry for a survey of Canadian dental libraries, five \$200 scholarships for dental hygienists, and \$1,000 in scholarships and bursaries for dental technology students at George Brown College in Toronto.

CFDE's commitment to dental education and research in 1970 now totals \$80,000, a 30 per cent increase over last year's all-time high. This significant improvement in the Fund's ability to assist dentistry is the result of increased support from all sources.

CFDE scholarships for dental hygiene students

Starting this year a Canadian Fund for Dental Education scholarship worth \$200 will be offered in each of Canada's five dental hygiene schools, it was recently announced by Trustee J. D. McLean.

Funds for the scholarships have been jointly provided by the Procter & Gamble Company of Canada Ltd, the Canadian Dental Hygienists Association and the Canadian Fund for Dental Education.

Doctor McLean said that applicants must (1) be enrolled in the second year at an accredited Canadian school of hygiene, (2) have a high academic standard, and (3) have participated in organized undergraduate activities. If more than one student fulfils these criteria, the scholarship will be shared between them, he said.

Scholarship winners will be selected by the awards committee in each school.

"This tangible encouragement for dental hygiene students is another important step forward in CFDE's continuing program of moving dentistry up," Doctor McLean declared.

Prince Edward Island students receive loans

Five Prince Edward Island students have been awarded dental student loans by the provincial health department to attend Dalhousie University Faculty of Dentistry this year.

The special dental loans are granted in an effort to relieve the shortage of dentists in Prince Edward Island.

The provincial health department has embarked on a long-range program of sponsored training to attract new dental graduates to establish practice in the province. Under the agreement with the five students, upon graduation they will practise in the province for a minimum of three years. Four other students have already been assisted under the plan and will be establishing practices in Prince Edward Island during the next three years.

Alberta hygiene school hit by quota

The School of Dental Hygiene of the University of Alberta was forced to turn away 105 of 130 qualified applicants for admission this year.

And Mrs. Margaret MacLean sees no hope of the situation improving because, while applications have skyrocketed, the university is holding fast to an admissions quota far below the student demand.

Mrs. MacLean is worried that Canada is "lagging so far behind" in the training of dental hygienists.

"We have five dental hygiene schools in Canada graduating about 150 students a year. The Royal Commission on Health Services in 1964 recommended that we graduate 1,000 a year by 1968," she explained.

Dental hygienists are now in such short supply, she said, that dentists are competing for them. That ruins a profession and undermines professional ethics. But it is the situation which results when there are 10 employment opportunities for every graduate in Alberta.

"And the situation is going to be worse with third party insurance coming in. When dentists are free, more people are going to go and see them. That will increase the demand for hygienists."

Mrs. MacLean said there are about 500 practising dentists in Alberta and about 100 dental hygienists. About one-third of the hygienists are in public health or education, she estimated.

And while the average working life of a dentist is about 40 years, that for a dental hygienist — because she is a woman and may marry and leave the work force — is eight to 10 years. That means that every dentist may need four hygienists during his working career.

Yet, Mrs. MacLean points out, the University of Alberta has a potential of 50 dental graduates a year and only 25 dental hygienists.

"We recommend four dental hygiene graduates to every dental graduate," she said. "At least we should be double, not half."

When the University of Alberta's School of Dental Hygiene opened in 1961, there were 32 applicants for the 20 class places available. By 1967, there were 64 applications. In 1968, applications climbed another five, shot to 102 last year and reached 159 this year.

Regional Conventions

Tufts professor challenges occlusion fundamentals

"Most methods of occlusal adjustment are exercises in technical precision with minimal biological relevance," according to Irving Glickman, professor of periodontology at Tufts University, Boston. Doctor Glickman's remarks were given at a joint meeting of the Canadian and American Academies of Periodontology in Montreal, September 16-19.

The Tufts periodontist was critical of most occlusal adjustments designed to produce an "ideal occlusion." He challenged many traditional concepts of "ideal occlusion" on the basis of recent findings at Tufts University which indicate that the functional bite pattern — not an ideal bite pattern reconstructed through grinding, reshaping, or moving teeth — is the prime determinant in the success or failure of corrective attempts by dentists.

Using intra-oral telemetry — a technique in which a miniaturized transmitter implanted in a tooth "broadcasts" tooth movements to a multi-channel recorder — Doctor Glickman found that centric occlusion, one of the traditional guidelines for conventional occlusal correction, was used only occasionally in swallowing and rarely in chewing.

"If habitual occlusion is really the functioning occlusion," said Doctor Glickman, "and habitual occlusion

changes with age, and patients persist in their habitual occlusion even after efforts to reconstruct them to an "idealized bite," then we may have to think in terms of the individual occlusion for all ages."

"Perhaps the habitual occlusion rather than the idealized occlusion should be the focus of occlusal adjustment. If we could reach agreement regarding clinical and radiographic signs of trauma from occlusion and identify them with specific types of occlusal relationships — forgetting preconceived notions of what constitutes an occlusal abnormality — it might lead to biological rather than mechanical criteria for evaluating occlusion," he concluded.

Winnipeg society sets program

The Winnipeg Dental Society has scheduled a varied clinical program for its 1970-71 season. President W. Walker Shortill has announced the following details:

November 16, Hotel Fort Garry: T. E. Starkey, Indianapolis. Crown and bridge prosthodontics for the general practitioner.

December 5, Hotel Fort Garry: H. M. Worth, Vancouver. Radiology (Alpha Omega Memorial Lecture).

January 22-23, Manitoba Dental Association Mid-Winter Meeting, Winnipeg Inn: G. J. Christensen, Denver. What's new in restorative dentistry.

February 22, Hotel Fort Garry: S. S. Arnim, Houston. Preventive dentistry.

March 22, Hotel Fort Garry: H. Dean Millard. Treatment planning based on diagnostic findings.

April 19, Hotel Fort Garry: Stanley Kennett, Winnipeg. Oral surgery for the general practitioner.

For further information, please write to P. R. Crawford, Clinic Chairman, Winnipeg Dental Society, 702 St. Mary's Rd, Winnipeg 8, Man.

Economics

Senate and Commons would modify federal tax proposals

The Senate Banking Committee and the House of Commons Finance Committee have proposed a wide number of changes in the federal government's white paper on tax reform.

The senators' report, tabled October 1, turned down most of the government's more sweeping proposals. It concluded that no major revision of the tax law is necessary and that any necessary changes can be made by amending present legislation.

The report of the Commons committee, tabled October 5, also urged com-

promises but held back from radical changes in the white paper.

In the matter of tax objectives, both committees would shift the emphasis from equity to growth, and would sharply reduce the degree of income redistribution as envisaged in the federal proposals.

Ottawa would have made professionals switch from the cash to accrual form of accounting as a basis for paying their taxes. Dentists, physicians and lawyers complained that they would then be taxed on work in progress although the work was yet to be billed and in fact was not completed.

The senators rejected the federal proposal completely, but the Commons committee worked out a compromise. It said the professions should be taxed on work they have billed for, although the cash may not have been received, but not for work that has yet to be billed.

Like the Commons committee, the senators rejected the proposal to disallow deductions for entertainment, convention and similar expenses. "Taxpayers should not be penalized because of administrative difficulty in properly distinguishing between legitimate and improper expenses of this nature," they said.

The Commons committee proposed a more liberal tax deduction for busi-

ness seminars and convention expenses. A deduction should be allowed for the costs of sending a businessman to two such educational seminars a year, or, alternatively, those gatherings that are either conventions or educational seminars, the committee proposed.

While noting the white paper plan to eliminate convention expenses as a legitimate tax deduction, the committee also contended that the costs of attendance at up to two conventions a year should be permitted "where the taxpayer can show they had a bona fide business purpose and where they are reasonable."

The committee proposed one restriction—that no reductions be permitted for convention costs where the convention is held outside the territorial limits of the sponsoring organization. This would eliminate tax deductions for conventions held by Canadian groups in, say, Nassau.

The committee also took a softer line on entertainment expenses as a tax deduction. So long as adequate measures are taken to guard against abuse, and the onus is placed on the taxpayer to prove the genuine business nature of his claims, deduction should be allowed.

The committee also approved the proposals to allow child care costs and employees' expenses to be deducted

COMMONS TAX REFORM HIGHLIGHTS

Highlights of the Commons committee report on the federal government's white paper on taxation:

Points accepted

—Higher basic income tax exemptions, to \$1,400 from \$1,000 for single and \$2,800 from \$2,000 for married taxpayers.

—Deduction of expenses involved in moving to take a new job.

—Averaging of income over several years for taxpayers with fluctuating incomes.

Points modified

—Change proposed accrual accounting so that professionals are not taxed for work that has not been billed.

—Change deductions for child care expenses where neither parent is at home, allowing them where a parent is home but incapacitated by permanent mental or physical infirmity.

—Change general \$150 deduction for expenses connected with holding a job to allow a higher deduction substantiated by itemized claim.

—Change top proposed tax rate of 51 per cent to 60, effective at taxable in-

come of \$60,000; rate of 50 per cent effective about \$30,000 instead of \$25,000.

—Only half capital gains instead of all to be subject to tax; half rather than full losses to be deductible.

—No capital gains tax, rather than partial tax, assessed against sale of a principal residence and up to an acre of land around it.

—Exemption from capital gains of \$1,000 instead of \$500 for proceeds from sale of lesser items.

—Increased exemption for estate taxes; no tax on estate valued at less than \$150,000.

—Wider system of setting value of an asset on valuation day, avoiding the situation where stock markets and land values might be at a low ebb and future tax would be charged on what actually had been a loss for the holder.

Points eliminated

—Proposal to end deductions for conventions, clubs and other aspects of expense account living; instead, present law strictly enforced to stop abuses.

—Revaluation of capital gains every five years; instead, gains tax to be assessed at transfer of an asset or at death.

from income for tax purposes. But it wants the current exemptions maintained for income from bursaries, fellowships and research grants.

Economic Council warns about "runaway" health care costs

Canadians must put the brakes on rocketing costs for health care and higher education by insisting on efficiency, says the Economic Council of Canada.

In its seventh annual review of the economy, published September 21, the national advisory body suggests deterrent fees for health services to help stem the drain on taxpayer funds.

But efficiency and cost-conscious management are the keys to containing runaway costs that the country will be unable to sustain for long, says the council.

The council is an independent body composed of government, labour, business, academic and agricultural leaders, set up in 1963, to draw up medium and long-range economic targets for Canada.

The review suggests costly inefficiency might be found in current practices ranging from restrictive licensing of physicians and dentists to budget padding by universities.

Titled *Patterns of Growth*, it examines the performance of various industries and services over the post-war years to gauge how efficiently labour and capital were put to work, especially in health and education.

Major sections of the current review deal with the rising expense of health care and education, which together soak up more than \$13 out of every \$100 of total national wealth. The costs of each service are growing at about 9 per cent a year, without counting inflation.

"Such a rate of expansion in expenditures in these fields is simply not sustainable for the long run," the council says.

If the rate of increase of the past five years were to continue unabated, these two areas of activity alone would absorb the entire potential national product before the year 2000.

"Thus the extent to which Canadians can enjoy and accommodate future growth in education and health services is inevitably going to depend increasingly on more effective use of resources in these fields," the council says.

While acknowledging federal-provincial efforts to hold down costs, the council adds: "This is a matter which we believe requires urgent attention in Canada . . ."

Health care should be comprehensive and available to everybody as a matter of sound economic policy as well as on human grounds, the council says. Access to education also is both economically and socially important.

Canadians, as consumers of the services and as taxpayers who foot the major part of the bills, should demand the correction of inefficiency in the university and in medicine, the council suggests.

Referring to wasteful practices in health care, the council cites limited long-range planning and allegations of restrictive licensing practices by physicians, dentists and paramedical disciplines.

"Physicians perhaps and dentists almost certainly will be in short supply by 1975," the council says.

Among suggestions for improved efficiency in health care, the council recommends relaxation of professional restrictions so that trained personnel could take over more medical duties at less cost.

Economies might also be encouraged by greater use of team medical services, consumer organized health centres, fuller use of facilities and equipment outside week-days and better management methods in hospitals and health care centres.

Dental care prices rise

Health care prices during the past nine years increased at an average annual rate of 3.7 per cent against a 2.9 per cent average for the Consumer Price Index. The comparison was revealed in a report released by Health and Welfare Minister John Munro, "Health Care Price Movements in Canada, April 1961 to April 1970."

The report, based mainly on health care data included in the Consumer Price Index series, also shows that among health items steepest rises over the latest 12 month period occurred in the prices of optical care, 8.9 per cent, and dentists' fees, 6.8 per cent. Physicians' fees are no longer surveyed in provinces that have established public medical insurance plans. However, an overall increase of 6.4 per cent was reported over the latest 15 months in medical fees as governed by provincial medical association fee schedules in nine provinces excluding Quebec.

Dentists' fees, said the report, had the highest average annual rate of increase among health care items over the nine year span at 5.5 per cent. Optical care had an average rise of 4.6 per cent. Physicians' fees rose at an average annual rate of 3.7 per cent. Pharmaceuticals showed a slight average annual decrease, 0.3 per cent. The report points out, however, that the effects of prices of newly introduced prescription drugs are not mentioned in the index.

Hospital rates have been excluded from the Consumer Price Index since 1961 when public hospital insurance plans had come into operation in all provinces. Hospital costs per patient-day over the period 1961-68 increased by an average of 10 per cent per year.

Certain comparisons were also made between recent fee movements in Canada and the United States. Over the past three years dentists' fees rose at an annual rate of 7.3 per cent in Canada compared to a rate of 5.9 per cent in the United States.

Prepaid plan begins in Alberta

A prepaid dental insurance plan covering 60 per cent of dental care costs for 10,000 Alberta residents received final contract signatures August 20.

The plan, which began to operate last April, provides coverage for employees of three food marketing companies and their dependants. Beneficiaries are members of Local 397 of the Retail Clerks Union, employed by Canada Safeway and L-Mart, and Local 373 of the Amalgamated Meat Cutters and Butcher Workmen of North America, employed by L-Mart, Safeway and Woodwards.

The agreement was signed by the unions, the three companies, and the Alberta Dental Service Corporation. It covers nearly all members of both unions who work for the three chains in Alberta.

Employers will provide the funds for the scheme. They will contribute approximately five cents for each hour a worker is employed, and the money will accumulate in a non-profit trust fund set up to provide payment for dental care.

All employees and their spouses are covered. So are children until the age of 21, or until the age of 25 if the child is a full-time student.

Negotiations are said to be under way with several other groups for inclusion in similar plans.

Steel workers sign pact in Churchill

United steel workers employed at the Churchill, Man, rocket range have reportedly signed an agreement with Pan American World Airways that includes provision for dental care. A dental plan will be introduced for employees in 1971.

Dental auxiliary test project begins in Saskatchewan

A pilot study to determine the feasibility of using dental auxiliaries, under the direct supervision of a dentist, for the provision of certain dental services to school children is under way in Saskatchewan. The \$400,000 pilot project began in the Oxbow school unit and in part of the Arcola school unit last September. The four year study will encompass about 3,000 children up to age 12.

A mobile trailer and necessary dental

equipment and supplies have been purchased for the project at a cost of more than \$31,000.

The trailer has four dental chairs, an x-ray machine and other related equipment, plus a reception area, office and storage space.

Participating in the project are a dentist, two dental auxiliaries, three certified assistants and a secretary.

The study, if successful, could point the way to future dental care plans in Saskatchewan — particularly in rural areas.

It has the cooperation of the two affected school units, the College of Dental Surgeons and the University of Saskatchewan's College of Dentistry.

Free dental care for all Newfoundland children between five and eight

All Newfoundland and Labrador children between the ages of five and eight will qualify for free dental care provided a dentist is willing to treat the child, it was recently announced by Health Minister Edward Roberts.

Mr. Roberts said that previously children between ages five and eight could receive care only if they lived in the same community as the practising dentist.

He explained that discontinuing the geographical qualification means in effect that any Newfoundland or Labrador child in the applicable age groups can gain access to dental treatment.

Fluoridation

Fluoridation comes to Corner Brook

Corner Brook, in western Newfoundland, recently started to fluoridate its water supply. Its city council had voted for fluoridation on April 21.

Corner Brook becomes the third community with controlled fluoridation in Newfoundland and Labrador. The other two are Gander, which also fluoridates its water system, and St. Lawrence, which has naturally occurring fluoride in its water supply.

Calgary report calls for fluorides

Calgarians can't expect any real reduction in tooth decay unless the city adds fluorides to its water supply, according to city Medical Health Officer Leslie Allan.

In his recent annual report to city council, Doctor Allan called on Calgary to join the 6.6 million other Canadians in such cities as Toronto, Winnipeg, Ed-

monton and Ottawa, who receive fluorides through municipal water systems.

Although the Alberta government makes free fluoride supplements available to children where the parents obtain a prescription, Doctor Allan maintained that such a home-based program reaches only a small proportion of the population.

But fluoridation of the water supply, he noted ruefully, "must be endorsed by a simple majority of the citizens in a plebiscite."

Calgarians last rejected fluoridation in a 1966 plebiscite.

Massachusetts legislature kills anti-fluoride bills

The Massachusetts House of Representatives has killed several bills that would have repealed the law which permits fluoridation, made local governments liable for damages resulting from fluoridation, allowed distribution of fluoride tablets by local health departments and required that non-fluoridated water be available for those who request it.

In another fluoridation development, Nevada is considering school fluoridation and has surveyed the fluoride contents of about 80 school systems and rural communities.

US courts uphold fluoridation

Fluoridation's legal condition has been diagnosed as sound in a review of its history in American courts published in *The Journal of the American Medical Association* (January 19, 1970).

"No court has struck down fluoridation on the ground that it is harmful," wrote R. P. Bergen of the AMA law division. "The handful of cases in which its attackers have been successful has been decided on procedural grounds."

In court tests, fluoridation has been upheld in 15 states and "the US Supreme Court has repeatedly refused to review fluoridation cases on the ground that they do not present a cognizable federal question," he reported.

"Despite few victories," fluoridation's opponents have not given up the fight. Bergen predicted that "there will be further efforts to halt fluoridation in the courts and in the public forum but, for all practical purposes, the process is gradually being accepted and no longer qualifies as a major public issue."

The challengers of fluoridation have sued in the capacity of residents, citizens, taxpayers, consumers, electors and as members of religious sects. Their arguments have been as varied, Bergen reported.

"Those claiming fluoridation is an abuse of municipal authority have asserted it is unnecessary, unsafe, waste-

ful, unlawful, class legislation, a breach of contract between a municipality and its water users, an illegal use of public funds, a nuisance, compulsory medication, socialized medicine, or that reasonable alternatives were available. Still others have claimed that the process violates religious freedom by compelling them to consume water additives against their religious convictions."

Swiss conference reaffirms fluoride safety

Twenty-one scientists from nine countries, meeting in Vichères, Switzerland, have reaffirmed fluoridation of drinking water as a safe and most desirable preventive measure in dental public health programs. Their unanimous verdict came at the end of a five day conference on caries prevention organized by the European Organization for Caries Research (ORCA), September 11-16.

A statement released by the scientists termed water fluoridation as a simple method which offers the possibility of lifelong administration of fluoride. The use of very large doses of fluoride in experimental treatment of atrophic bone diseases, such as osteoporosis, Paget's disease and multiple myeloma, contributes collateral evidence of the safety of caries preventive doses of fluoride.

The statement continued: "No other trace element is as instrumental in preventing dental caries" and "no other factor is more important for this than the continued presence of optimal fluoride concentrations at the tooth surface and in dental plaque."

The conference also found that the local effect of fluoride may be more important than had been concluded from earlier studies. This topical component is present in systemic administration by water fluoridation or tablets, as well as in classical topical application methods.

When fluoridation is impractical, the statement said, substitute methods of providing fluoride should meet as many as possible of the following criteria: frequent, regular, safe and inexpensive administration in a form exerting systemic as well as local effects.

Ear bone disease causing deafness linked to lack of fluoridation

Fluorides in water may prevent deafness caused by disease of the bone of the inner ear. This new finding in the growing research on the possible beneficial medical aspects of fluorides was reported in a study of the incidence of stapes disease in high and low fluoride areas.

Writing in *Archives of Otolaryngology* (November 1969), H. J. Daniel, III, re-

ported four times more cases of stapes disease in low fluoride areas in Mississippi than in high fluoride areas in Texas.

Doctor Daniel said that "the high data seemed to indicate that ingestion of water with a low fluoride content (more than 0.6 ppm) as opposed to ingestion of water with a high fluoride content (more than 1.9 ppm) may increase the chances of stapedial otosclerotic hearing loss development."

The incidence of this one type of hearing loss in proportion to hearing losses of all types was significantly greater in the low fluoride area, he reported.

Doctor Daniel called for "further investigation of the role fluoride plays in the prevention or control of otosclerosis."

Research

Arterial disease detected early in gingiva

It may be possible to detect arteriosclerosis in the capillaries of the gingiva before it is detected in the patient's major arteries or through blood tests, research by a New Orleans dentist suggests.

R. A. Barrett, who conducted the research with 58 women volunteers, said: "Either hardening of the arteries can be detected sooner in the capillaries, or the present standards for normal blood levels of serum cholesterol and triglycerides are far too high."

Doctor Barrett, who is professor of oral medicine at Louisiana State University School of Dentistry, said that under usual procedures, a check for arteriosclerosis involves a blood test. "If a laboratory check indicates high levels of serum cholesterol or triglycerides in the blood, then this patient, presumably, is suffering from hardening of the arteries."

Doctor Barrett said each of the women who participated in the research project was given such a blood test, and the results were compared with results of a study made on the capillaries in gingival tissues taken from each volunteer.

The comparison indicated that some type of hardening of the arteries was being detected first in the capillaries. "In some of our volunteers, an early build-up of hardening of the arteries could be seen in the capillaries, although such a build-up was not apparent in the blood tests," Doctor Barrett said.

He noted also that patients who had thickened capillary walls invariably had

higher levels of serum cholesterol and triglycerides.

Radiographs also showed that patients with thickened capillary walls apparently had less bone support for the teeth, possibly the result of difficulty in the transfer of nutrients and wastes between the capillaries and supportive tissue.

Doctor Barrett said the 58 volunteers were all in apparent good health and ranged in age from 20 to 40.

Awards and Appointments

Colonel **L. G. Craigie**, commandant of the Canadian Forces Dental Services School in Canadian Forces Base Borden, Ont, has been appointed an Honorary Dental Surgeon to Her Majesty the Queen.

Deaths

Bennett, Paul. 43. Elmira, Ont. University of Toronto, 1950. August 1970. Survived by his mother.

Derksen, J. B. 69. Winnipeg. University of Alberta, 1931. 15-8-70.

Fleming, Louis James. 80. Lancaster, NB. Tufts University, 1913. 16-7-70. Survived by Ann (wife); Paul and Gerald (sons); Noreen and Elizabeth (daughters); and 12 grandchildren.

Garrett, John Malcolm. 58. Sarnia, Ont. University of Toronto, 1939. 12-9-70. Survived by Lorna (wife); Janet and Catherine (daughters); and Dr. James Garrett (brother).

Huot, Jules. 74. St-Leonard, Qué. Université Laval, 1919. 10-9-70.

Johnson, Francis Winslow. 87. Halifax. Baltimore Medical College, 1910. 14-9-70.

Lent, Frederick Eugene. 77. New Germany, NS. Dalhousie University, 1921. August 1970.

Lind, Lorin Oliver. 50. West Vancouver, BC. University of Toronto, 1944. 18-8-70. Survived by Isabel (wife).

Macdonald, William Wagner. 77. Toronto. Royal College of Dental Surgeons of Ontario, 1915. 17-9-70. Survived by Norma (wife); Norman and Scott (sons); and Margaret (daughter).

Rivest, François. 26. Murdochville, Qué. Université de Montréal, 1969. 13-8-70. Survécé par Michèle (épouse); M. et Mme Alfred Rivest (parents); Jean-Luc (frère); et Christine (soeur).

Sproul, George Alexander. 97. Springhill, NS. Royal College of Dental Surgeons of Ontario, 1916. September 1970.

In memoriam

S. K. Wetmore

The death of Selby K. Wetmore, a well known retired Saint John, NB, dentist occurred July 12 after a lengthy illness.

Born in Saint John, Doctor Wetmore graduated from the University of Toronto in 1929, returning thereafter to practise in his native city. In 1951 he was named Director of Dental Services for New Brunswick. He was also a lifetime member of the New Brunswick Dental Society and served for some years as New Brunswick's provincial associate editor of the CDA Journal.

During World War II Doctor Wetmore served overseas with the Royal Canadian Dental Corps. He was also a member of the Canadian Army Reserve.

Besides his wife, Sigurlena, Doctor Wetmore is survived by two daughters, Mrs. Stanley Cooper of Montreal and Mrs. Victor Gardiner of Bellingham, Washington; three grandchildren and one nephew.

Research and Fluoridation—Dental researchers who are exploring new techniques for combating tooth decay are not seeking to supplant water fluoridation. Rather, their successes will provide decay resistance for persons who had not had the protective benefits of water fluoridation and possibly provide some additional resistance for those who have.

L'Association

Le président Spence préconise l'affiliation conjointe volontaire

Le Dr W. J. Spence, président de l'ADC, a demandé aux dentistes et à leurs représentants dans les organismes locaux, provinciaux et national d'étudier la mise en place d'un système de cotisation conjointe volontaire qui permettrait aux organisations dentaires nationale et provinciales de recevoir les ressources dont elles ont besoin pour maintenir leurs fonctions actuelles et envisager de nouvelles responsabilités que leurs membres et la société exigent d'elles. Il a lancé cet appel à l'occasion de réunions dentaires à Terre-Neuve, en Nouvelle-Ecosse et à Québec.

"Au Canada, historiquement, le gouvernement a laissé à chaque profession le soin de gouverner ses propres membres, tant que l'intérêt public semblait protégé. La nouvelle tendance, parmi les gouvernements, les commissions spéciales, les organes d'information et le public en général est plutôt de renforcer la protection du public", a déclaré le président de l'ADC.

"Selon eux, les associations professionnelles privées ne devraient pas être financées par les droits versés pour obtenir l'autorisation d'exercer, droits qui sont établis pour protéger l'intérêt public. Un conflit d'intérêt risque d'apparaître lorsqu'un organisme prélève les deux".

Le Dr Spence a déclaré que ce principe fondamental apparaît dans les rapports de la Commission McRuer sur les droits civiques, le Comité des professions de la santé de l'Ontario, la Commission d'enquête sur la santé et le bien-être social du gouvernement du Québec et des déclarations récentes du Conseil économique du Canada. Ce principe, a-t-il dit, sinon l'essentiel du détail de ces rapports, deviendra probablement loi en quelques années. Au fond, ces rapports demandent la séparation entre les organismes de réglementation et les associations – l'appartenance aux organismes de réglementation demeurant obligatoire tandis que l'affiliation aux associations deviendrait totalement volontaire sur une base individuelle.

Le Dr Spence a fait remarquer que certaines professions de santé, comme les médecins au Canada et les dentistes aux États-Unis, fonctionnent déjà de cette façon depuis quelque temps.

Selon lui, les dentistes canadiens sont conscients de ces tendances au sein du gouvernement et de ces professions. Nombreux sont les dentistes à qui l'affiliation obligatoire à une association ou bien à un organisme de réglementation déplaît. Ils peuvent apprécier ce qu'une association leur offre, mais n'aiment pas qu'on leur dise qu'ils doivent en être membres. Il est peu probable que des dentistes mécontents contribuent à renforcer les organisations dentaires.

"Ceux-la même, si on leur en donnait le choix, se joindraient sans doute à l'association. Je ne pense pas qu'il y ait ici de dentiste qui gagne tant d'argent qu'il puisse se dispenser de participer aux avantages étendus et divers que lui offrent les associations".

Le président Spence a déclaré qu'un divorce à l'amiable entre les organismes de réglementation et les associations ne semble pas être une question litigieuse. Il est très vraisemblable qu'un tel changement se produise sans que le gouvernement pousse encore à la roue. Mais, a-t-il dit, ce pas en avant soulève d'autres problèmes essentiels: "Les avantages des associations volontaires attireraient la plupart des dentistes, mais deviendraient-ils membres et d'une association provinciale et d'une association nationale? L'organisme national ferait-il concurrence aux associations provinciales quant aux droits et aux avantages? Qui parlerait au nom des dentistes du Canada?"

Le docteur Spence a mis en garde contre une appartenance indépendante à l'association nationale et à l'association provinciale qui disloquerait la profession dentaire. L'ADC a, par conséquent, approuvé un type d'affiliation conjointe, volontaire et individuelle. Il comprend les sociétés locales et les associations provinciale et nationale. Chacune d'elles ferait partie de l'autre. L'association nationale a invité ses membres corporatifs à approuver ce principe et à demander à son Conseil de la constitution et des règlements de rédiger une disposition acceptant à la fois l'affiliation existante et l'affiliation

conjointe. Cette disposition sera mise au vote lors de la prochaine réunion annuelle de l'association.

"L'Association Dentaire Canadienne est prête à accepter les deux formes d'affiliation pour satisfaire aux différentes exigences provinciales", a dit le docteur Spence.

"Au lieu de rivaliser avec acharnement, les organismes national et provinciaux devraient collaborer de près comme des associés, fonctionnant effectivement dans un groupe harmonieux, dans l'intérêt de tous les dentistes canadiens et de tous les Canadiens".

Le docteur Spence a expliqué à son auditoire que grâce à un tel système "les responsabilités et les fonctions n'existeraient pas en double. Les associations provinciales s'occuperaient de toutes les tâches relevant de la juridiction provinciale, tandis que l'ADC représenterait l'opinion générale des groupes provinciaux sur les questions dépassant le domaine provincial. L'ADC ne représenterait pas la tête d'une hiérarchie, mais l'ensemble des opinions de la plupart des dentistes canadiens".

Deuxième conférence nationale des étudiants dentaires

Les représentants des étudiants des diverses facultés dentaires canadiennes ont tenu au siège de l'ADC à Toronto et à la Faculté de chirurgie dentaire de l'Université Western Ontario à London, du 21 au 24 octobre, la deuxième Conférence nationale des étudiants dentaires canadiens.

La conférence était organisée par le Comité des membres-étudiants du Conseil de l'enseignement de l'ADC. Le Fonds canadien pour l'enseignement dentaire a pu fournir une aide matérielle grâce à un don spécial de la Cie Colgate-Palmolive.

L'agenda de la réunion comprenait: une discussion de la conférence de 1969, un rapport sur la Conférence internationale des étudiants dentaires qui a eu lieu à Berlin en août 1970, l'internat et la recherche ainsi que la liaison étudiants-professeurs. Les délégués ont organisé leurs propres groupes de discussion pour le reste du programme, dont les sujets touchaient, entre autres, à la structure officielle des orga-



Le Dr Don W. Gullett, de Toronto, Directeur général de l'Association Dentaire Canadienne jusqu'en 1964, a reçu le prix Elmer S. Best au cours d'une cérémonie qui a eu lieu le 14 septembre à l'ambassade des Etats-Unis à Ottawa. Le prix a été remis par l'Hon. Adolf W. Schmidt, ambassadeur des Etats-Unis, en présence de plus de 70 dentistes et leurs épouses. Le prix est décerné chaque année par l'Académie Pierre Fauchard, un organisme international qui se consacre à l'avancement de l'art dentaire.

nisations des étudiants dentaires et à l'aide financière aux étudiants dentaires.

Les séances de la seconde journée ont eu lieu à la Faculté de chirurgie dentaire de l'Université Western Ontario, où les délégués ont visité les bâtiments des sciences de la santé.

Les débats ont été précédés le 21 octobre par une réception offerte par l'Association dentaire de l'Ontario. Lors d'un dîner offert le jour suivant par l'Association dentaire canadienne, les délégués ont rencontré le Dr W. J. Spence, président de l'ADC et M. M. E. Bower, président du Fonds canadien pour l'enseignement dentaire.

Le Dr Swanson devient président du Conseil des services hospitaliers

Le Dr Spence, président de l'ADC, a annoncé la nomination du Dr A. E. Swanson, de Vancouver, à la prési-

dence du Conseil des services hospitaliers. Le Dr Swanson succède au Dr P. T. Smylski, de Toronto, qui avait été élu président de ce conseil lors du Congrès national à Winnipeg, mais a démissionné depuis. Le Dr Smylski en demeure membre.

Le Dr Swanson, chirurgien buccal bien connu de Vancouver, préside le Comité des services hospitaliers du Collège des Chirurgiens-Dentistes de la Colombie-Britannique. Il est membre du Conseil des services hospitaliers de l'ADC depuis plusieurs années.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 septembre:

Fonds à revenu fixe \$10.462;

Fonds d'actions ordinaires \$20.692.

L'avoir total (valeur marchande) du régime se montait à \$8,610, 939.76.

Au cours du mois précédent, les transactions, achats et ventes, ont été les suivantes: achat 1,000 actions de Corning Glass Works, 3,000 actions de Thomson News; et 2,500 actions de Commonwealth Holiday Inns of Canada; vente 5,000 actions de Shell Canada A et 5,000 actions de Inter Island Resorts.

Pour de plus amples renseignements, veuillez écrire à: Canadian Dental Service Plans Inc, 230 St. George St, Toronto 180, Ont.

Le Canada

Les dentistes tchécoslovaques disent merci

Les 14 dentistes tchécoslovaques qui ont terminé cette année leur cours de recyclage à l'Université Western Ontario ont envoyé leurs remerciements aux responsables de ce cours.

"Nous, les dentistes tchécoslovaques, qui sommes arrivés au Canada à l'automne de 1968, à la suite de malheureux événements qui encore une fois ont atteint si gravement notre pays, aimerions exprimer nos sentiments d'appréciation et de profonde gratitude à toutes les personnes qui ont rendu ce cours et son succès possible".

Ainsi débute la lettre écrite par Richard Jezdinsky, l'un des réfugiés, qui exerce maintenant à Cochrane, Ont, au nom du groupe de dentistes tchèques qui ont terminé en juin leur cours de 10 mois. Elle était adressée au Dr H. O. Warwick, vice-président de la section des sciences de la santé à l'Université Western Ontario.

Le Canada reçut les dentistes en août 1968, en vertu du programme d'aide aux

réfugiés tchécoslovaques. Devant les difficultés qu'ils rencontrèrent pour obtenir l'autorisation de pratiquer, le Collège royal des chirurgiens-dentistes de l'Ontario, le ministère de la Santé de l'Ontario, le ministère fédéral de la défense et celui de l'immigration et la main-d'oeuvre mirent sur pied un cours spécial à l'UWO pour leur permettre de se qualifier. Seize s'inscrivirent, mais deux abandonnèrent avant la fin.

La lettre se termine ainsi: "Nous apprécions . . . la création du cours et . . . son fonctionnement couronné de succès. Tous les membres du corps enseignant nous ont apporté beaucoup, et nous ne l'oublieront pas . . ."

"Nous savons qu'une occasion semblable ne s'est jamais produite pour quiconque dans l'histoire du Canada. Le Canada est devenu notre nouvelle patrie et nous sommes fiers que cette occasion nous ait été donnée et que nous ayons atteint notre but".

Les dentistes, dont cinq sont des femmes, ont tous signé l'engagement de s'établir pendant trois ans dans des villes du nord de l'Ontario, où ils exercent actuellement.

Ontario: un moyen de réduire le prix des médicaments

Le ministère de la Santé de l'Ontario a lancé le plan PARCOST, qui doit permettre au public d'obtenir des médicaments d'ordonnance de qualité à un prix raisonnable.

Le plan est fondé sur un répertoire comparatif des médicaments indiquant les produits comparables et leurs prix relatifs. A l'aide de graphiques facilitant la comparaison, le répertoire indiquera le nom générique et les noms de marque des médicaments, ainsi que le prix par unité posologique des produits équivalents.

La première édition du répertoire comprend plus de 400 préparations qui toutes répondent aux normes de qualité établies par un comité spécial du ministère de la Santé de l'Ontario.

Il sera ainsi facile aux médecins et dentistes de prescrire à leurs patients des médicaments sous leur présentation la moins coûteuse. Les pharmaciens membres vendront ces préparations au-dessous du prix maximal indiqué par le répertoire, plus \$2 de frais pour remplir l'ordonnance. Les pharmacies affiliées seront reconnaissables grâce à un emblème rouge, noir et or.

L'enseignement dentaire

Bourses du FCED pour les étudiantes en hygiène

A compter de cette année, le Fonds canadien pour l'enseignement dentaire

offrira une bourse de \$200 dans chacune des cinq écoles canadiennes d'hygiène dentaire, a annoncé le Dr J. D. McLean, administrateur du Fonds.

Les sommes affectées aux bourses ont été fournies conjointement par la Cie Procter & Gamble du Canada, l'Association des hygiénistes dentaires canadiens et le Fonds canadien pour l'enseignement dentaire.

Les candidates doivent (1) être inscrites en deuxième année dans une école canadienne reconnue d'hygiène dentaire, (2) posséder un niveau scolaire élevé et (3) avoir participé aux activités des organismes étudiants. Si ces critères s'appliquent à plusieurs étudiantes, la bourse sera partagée entre elles.

Les bénéficiaires des bourses seront choisis par un comité formé dans chaque école.

"Cet encouragement tangible aux étudiantes en hygiène dentaire constitue une mesure importante qui s'inscrit parmi les objectifs du FCED, toujours soucieux de promouvoir l'art dentaire", a déclaré le Dr McLean.

L'Ecole d'hygiène de l'Alberta est dépassée par la demande

L'Ecole d'hygiène dentaire de l'Université de l'Alberta a dû refuser cette année 105 des 130 candidates qualifiées pour s'inscrire.

Mme Margaret MacLean ne pense pas que la situation puisse s'améliorer puisque, alors que la demande est montée en flèche, l'université s'en tient à un chiffre d'admission très inférieur au nombre des étudiantes intéressées.

Mme MacLean s'inquiète que le Canada conserve un tel retard dans la formation des hygiénistes dentaires.

"Nous avons au Canada cinq écoles d'hygiène dentaire, qui forment quelque 150 diplômées par an. En 1964, explique-t-elle, la Commission royale d'enquête sur les services de santé recommandait que nous formions 1,000 diplômées par an dès 1968".

Les hygiénistes dentaires sont maintenant tellement rares que les dentistes se les arrachent, ce qui porte préjudice à la profession et compromet l'éthique professionnelle. Mais telle est la situation qui apparaît lorsqu'il y a 10 offres d'emploi pour chaque diplômée de l'Alberta.

"La situation ne pourra qu'empirer lorsque l'assurance sera en vigueur. Lorsque les soins dentaires seront gratuits, le nombre de patients augmentera, ce qui entraînera une plus forte demande d'hygiénistes".

Mme MacLean a déclaré que l'Alberta compte environ 500 dentistes en exercice pour une centaine d'hygiénistes. Les tiers environ des hygiénistes travaille pour l'enseignement ou l'hygiène publique, selon ses estimations.

Alors que la période moyenne d'activité d'un dentiste est de 40 ans environ, celle de l'hygiéniste dentaire, qui est une femme et peut donc cesser le travail en se mariant est de huit à 10 ans. Le dentiste peut donc avoir besoin de quatre hygiénistes au cours de sa carrière.

Pourtant, fait remarquer Mme MacLean, l'Université de l'Alberta peut former 50 dentistes par an et seulement 25 hygiénistes dentaires.

Elle recommande que l'on forme quatre fois plus d'hygiénistes que de dentistes. A tout le moins, elles devraient représenter le double du chiffre des étudiants dentaires diplômés et non la moitié. Lors de l'ouverture de l'Ecole d'hygiène dentaire de l'Université de l'Alberta, en 1961, on comptait 32 postulantes pour 20 places disponibles. En 1967, il y eut 64 demandes et 69 en 1968. L'année dernière, leur nombre atteignit 102 et cette année 159.

Congrès régionaux

Glickman critique les notions traditionnelles de l'occlusion

La plupart des méthodes de rectification de l'occlusion sont des exercices de précision technique dont l'intérêt biologique est minime, selon Irving Glickman, professeur de périodontologie à l'Université Tufts de Boston. Le Dr Glickman parlait à l'occasion de la réunion conjointe des Académies de périodontologie canadienne et américaine, qui a eu lieu du 16 au 19 septembre à Montréal.

Le périodontiste a critiqué la plupart des rectifications de l'articulation destinées à créer une "occlusion idéale". Il s'en est pris à de nombreux concepts traditionnels "d'occlusion idéale", s'appuyant sur les récentes observations faites à l'Université Tufts, qui indiquent que c'est l'articulation fonctionnelle – et non un modèle idéal reconstruit en meulant, recontourant ou en déplaçant les dents – qui détermine essentiellement le succès ou l'échec des corrections entreprises par les dentistes.

La télémétrie intra-buccale – qui emploie un émetteur miniaturisé implanté dans une dent pour transmettre les mouvements de la dent à un enregistreur à voies multiples – a révélé au Dr Glickman que l'occlusion centrée, l'une des références traditionnelles dans la correction conventionnelle de l'occlusion, ne servait que de temps en temps pour déglutir et rarement pour mâcher.

"Si l'occlusion habituelle est en réalité l'occlusion fonctionnelle", a dit le Dr Glickman, "et si l'occlusion habituelle change avec l'âge, et si les patients conservent leur occlusion habituelle même après que l'on se soit employé à reconstruire chez eux un

"modèle idéalisé", il faut peut-être alors penser en termes d'occlusion individuelle pour tous les âges".

"Peut-être est-ce sur l'occlusion habituelle, plutôt que sur l'occlusion idéalisée qu'il faut baser la rectification. Si l'on peut s'entendre à propos des signes cliniques et radiographiques de traumatismes dûs à l'occlusion et si l'on peut les identifier à des types spécifiques de rapports occlusaux – en oubliant les notions préconçues de ce qu'est une anomalie occlusale – on pourrait aboutir à des critères biologiques plutôt que mécaniques pour évaluer l'occlusion", a-t-il conclu.

L'économie

Les médecins du Québec seront-ils salariés?

La Commission d'enquête Castonguay-Nepveu, qui étudie les questions de santé et de bien-être au Québec, a proposé que les médecins soient rémunérés par salaire plutôt que par paiement à l'acte.

Un rapport, publié le 3 septembre, déclare: "A présent, une grande partie des soins est consacrée au traitement de la phase active de la maladie. Le mode de paiement à l'acte en est la principale explication. Il favorise certaines spécialisations qui, en conséquence, attirent le plus grand nombre de médecins. Les tâches de prévention et de ré-éducation sont totalement négligées dans ce système".

Dans son premier rapport, la commission, qui était alors dirigée par M. Claude Castonguay, actuellement ministre de la Santé du Québec, recommandait un mode de paiement combinant le salaire et l'acte. Celui qui est paru le 3 septembre déclare que "la commission y voyait alors le moyen d'attirer un grand nombre de médecins, mais aussi de favoriser l'essor d'une vraie médecine d'équipe et d'égaliser les revenus de divers spécialistes".

Le rapport propose effectivement l'essai de méthodes situées entre le paiement à l'acte et le seul salaire – par exemple, paiement selon le nombre de cas traités. Mais sa conclusion est qu'il faudrait passer progressivement du paiement à l'acte au salaire.

"Il semble", dit le rapport, "que les avantages du salaire – sécurité, retraite, congés, carrières plus longues et moins pénibles – compensent les avantages dont les docteurs jouissent actuellement".

Québec: l'assurance-maladie inclura les soins dentaires

La loi de l'assurance-maladie sera modifiée au cours du mois de novembre

pour permettre l'extension de la couverture des soins dentaires.

Le ministre de la Santé, de la Famille et du Bien-être social, M. Claude Castonguay, a fait cette révélation à la Commission parlementaire de la Santé. Le ministre s'est contenté de dire que le bill 8 serait amendé pour couvrir "jusqu'aux soins dentaires, en tout ou en partie, pour une partie de la population".

Actuellement, la loi de l'assurance-maladie ne couvre que les frais de soins dentaires chirurgicaux pratiqués en milieu hospitalier.

A la conférence fédérale-provinciale des ministres de la Santé qui aura lieu en novembre, le Québec tentera de faire en sorte qu'Ottawa consente à défrayer une partie des coûts supplémentaires que nécessitera la modification de la loi.

Toutefois, même si le gouvernement fédéral refuse de contribuer au paiement des frais additionnels, la loi de l'assurance-maladie sera modifiée.

Alberta: entrée en vigueur d'un régime conventionnel

Un régime conventionnel d'assurance dentaire couvrant 60 p.c. des soins a été ratifié le 20 août en Alberta.

Le régime, qui a commencé à fonctionner en avril dernier, assure 10,000 personnes, les employés de trois compagnies d'alimentation et leurs familles. Les bénéficiaires sont les membres du Local 397 du Retail Clerks Union, employés par Canada Safeway et L-Mart, et du Local 373 du Amalgamated Meat Cutters and Butcher Workmen of North America, employés par L-Mart, Safeway et Woodwards.

L'accord a été signé par les syndicats ouvriers, les trois compagnies et la Corporation des services dentaires de l'Alberta. Il couvre presque tous les membres des deux syndicats qui travaillent pour les trois chaînes en Alberta.

Les fonds pour le régime, qui paie environ 60 p.c. des frais dentaires, seront fournis par les employeurs. Ceux-ci verseront approximativement cinq cents par heure de travail de l'employé, et les cotisations s'accumuleront dans un fonds sans but lucratif créé pour défrayer les soins dentaires.

Tous les employés et leur conjoint sont assurés, ainsi que leurs enfants jusqu'à 21 ans, ou jusqu'à 25 ans s'ils sont étudiants à temps complet.

Des négociations seraient en cours avec plusieurs autres groupes désirant participer à des régimes semblables.

Des métallurgistes signent un accord à Churchill

Les membres des Métallurgistes unis d'Amérique employés à la base de fusées de Churchill, au Manitoba, auraient

signé avec la Pan American World Airways un accord qui prévoit la couverture des soins dentaires. Un régime dentaire sera mis en place pour les employés en 1971.

Le Conseil économique s'alarme de l'augmentation excessive du coût des soins

Le Conseil économique du Canada signale que les Canadiens doivent remédier à la montée en flèche du coût des soins de santé et de l'éducation en améliorant l'efficacité de ces services.

Dans son septième compte rendu annuel sur l'économie, paru le 21 septembre, cet organisme consultatif national propose la mise en place d'un ticket-modérateur pour les soins médicaux afin d'alléger la ponction sur les fonds publics.

Mais c'est une administration soucieuse d'efficacité et attentive au prix de revient qui doit constituer le remède à des coûts excessifs que le pays ne sera pas capable d'assumer longtemps.

Organisme indépendant composé de représentants des milieux du gouvernement, du travail, des affaires, des universités et de l'agriculture, le conseil a été établi en 1963 pour fixer des objectifs économiques à moyen et à long terme pour le Canada.

Selon le compte rendu, on pourrait trouver un coûteux manque d'efficacité dans des pratiques courantes, à savoir, les règles trop restrictives pour accorder l'autorisation d'exercer aux médecins et dentistes ou les gros budgets des universités.

Le mémoire examine le comportement de diverses industries et services dans les années d'après-guerre pour évaluer l'efficacité avec laquelle le capital et le travail ont fonctionné, surtout dans les domaines de la santé et de l'éducation.

Les principales sections en sont consacrées à la hausse des frais de santé et d'éducation, qui absorbent plus de \$13 sur 100 du total des ressources nationales. Le coût de chacun de ces services augmente d'environ 9 p.c. par an, sans tenir compte de l'inflation.

"Un tel taux d'augmentation des dépenses dans ces domaines ne peut pas être assumé à long terme", déclare le conseil.

Si le taux d'augmentation des cinq dernières années devait se maintenir sans fléchir, ces deux domaines à eux seuls absorberaient le revenu national potentiel tout entier avant l'an 2000.

"Ainsi, le degré d'expansion de l'éducation et des services de santé que les Canadiens pourront se permettre d'assumer dépendra inévitablement et de façon croissante d'un usage plus efficace des ressources disponibles en ces domaines".

Tout en reconnaissant les efforts fé-

déraux et provinciaux accomplis pour contenir ces coûts, le conseil ajoute qu'il s'agit là d'une question à étudier "en priorité" au Canada.

Des soins étendus et accessibles à tous représentent une bonne politique du point de vue économique aussi bien qu'humain. L'accès à l'éducation est lui aussi important économiquement et socialement, déclare le conseil.

Les Canadiens, consommateurs de ces services et contribuables qui paient la majeure partie de la note, devraient exiger que l'on remédie au manque d'efficacité à l'université et en médecine.

Faisant allusion au gaspillage dans le domaine de la santé, le conseil cite la pauvreté de la planification à long terme et des allégations de méthodes restrictives pour l'attribution du droit d'exercer chez les médecins, les dentistes et les disciplines paramédicales.

"Il y aura peut-être un manque de médecins et très probablement un manque de dentistes en 1975", déclare le conseil.

Entre autres suggestions pour améliorer l'efficacité des services de santé, le conseil avance l'assouplissement des restrictions professionnelles de façon à permettre au personnel entraîné d'effectuer un plus grand nombre de tâches médicales à moindres frais.

Des économies seraient aussi réalisables grâce au développement de la médecine d'équipe et des centres de santé organisés par les consommateurs, à un plus grand usage des installations et du matériel en dehors des jours de semaine et enfin grâce à de meilleures méthodes de gestion dans les hôpitaux et les centres de traitements.

Un projet américain d'assurance-maladie couvre les soins dentaires pour enfants

Le sénateur du Massachusetts, M. Edward M. Kennedy, a déposé un projet de loi national sur l'assurance-maladie qui couvrirait des services dentaires étendus pour les enfants et les jeunes gens. Si le projet était adopté dans sa forme actuelle, l'assurance deviendrait effective le 1^{er} juillet 1973.

Elle couvrirait des soins dentaires étendus — mais excluant la plupart des traitements orthodontiques — pour les enfants de moins de 15 ans. Cependant le projet stipule que le groupe assuré augmentera chaque année de deux années d'âge pour inclure tous les jeunes jusqu'à 25 ans. On accordera des prestations dentaires aux personnes plus âgées lorsque les fonds, les installations et le personnel disponible rendront cette mesure possible.

La couverture dentaire comprend les services, les matériaux et les fournitures normalement dispensés dans un cabinet dentaire sans frais à part pour les soins professionnels.

Seraient inclus les services préven-

tifs, y compris l'éducation à l'hygiène dentaire, les services de diagnostic, les services thérapeutiques sauf les soins d'orthodontie autres que pour les malocclusions qui rendent le patient handicapé, ainsi que les services nécessaires à la réhabilitation à la suite de blessures, d'infirmité ou de maladie.

La recherche

Ottawa triple son aide à la recherche dentaire

Le chef de la Division de l'hygiène dentaire du ministère de la Santé nationale, R. A. Connor, révèle qu'Ottawa verse cette année \$446,797 d'aide à divers projets de recherche dentaire. La subvention pour 1970-71 dépasse de trois fois le montant accordé en 1968-69 (\$137,980). Le gouvernement avait accordé \$40,000 en 1964-65 et \$265,769 en 1969-70.

Les octrois se répartissent cette année en deux catégories. La première est la nouvelle "Subvention 1970-71 du ministère de la Santé nationale", qui a versé \$13,000 pour l'enquête sur la profession dentaire de l'ADC, \$60,000 pour une étude pilote sur les auxiliaires dentaires et \$13,000 pour un examen du programme des études dentaires, soit un total de \$86,000.

D'autre part, la "Recherche dentaire" alloue \$262,845 à 10 autres projets. Il s'agit de deux recherches en dentisterie préventive (\$25,850), cinq études épidémiologiques (\$117,996), un "projet opérationnel" (\$38,803), et deux études sur les effectifs auxiliaires (\$80,196). Le ministère attribue également \$87,800 à quatre postes de recherche en dentisterie préventive.

Ottawa contribuera encore sous peu \$10,152 à une nouvelle étude sur un centre de santé communautaire; le total des subventions atteindra alors \$446,797.

Un anesthésique accusé de produire des effets du genre LSD

Selon le *Wall Street Journal*, un important anesthésique nouveau a été dénoncé comme susceptible de causer des effets secondaires semblables à ceux du LSD.

Le médicament (kétamine) a été approuvé par l'Administration des aliments et drogues des Etats-Unis en avril, après avoir été mis à l'essai chez plus de 11,000 malades.

Le médicament est mis sur le marché par Parke-Davis, qui en détient la

licence, sous le nom de Ketalar. La compagnie Bristol-Myers de New York la vend sous la marque Ketaject.

D'après le rapport du WSJ, le produit a pour originalité d'agir en provoquant une dissociation sensorielle. Les patients semblent se trouver en état de transe et ignorer les excitations douloureuses alors que leurs yeux sont ouverts.

Dans certains cas, les patients souffrent de cauchemars et de délires à l'issue de l'anesthésie. Une étudiante universitaire de Floride, qui a subi l'extraction de trois dents de sagesse incluses sous anesthésie à la kétamine, a déclaré qu'elle était restée gravement déprimée pendant des semaines après l'opération, toujours selon le *Wall Street Journal*.

Le produit, qui peut être injecté par voie intramusculaire ou intraveineuse, n'est pas narcotique, est d'action rapide et peu susceptible d'influer sur la respiration du malade. Il convient aux interventions de courte et de longue durée.

Premier dépistage de l'artériosclérose dans les gencives

Les recherches effectuées par un dentiste de la Nouvelle-Orléans indiquent que l'on pourrait détecter l'artériosclérose dans les capillaires gingivaux avant qu'elle ne soit dépistée dans les grandes artères ou par les examens du sang.

Le Dr R. A. Barrett, qui a effectué des recherches chez 58 femmes volontaires déclare: "Ou bien le durcissement des artères peut être détecté plus tôt dans les capillaires, ou bien les taux de cholestérol et de triglycérides sériques actuellement tenus pour normaux sont beaucoup trop élevés".

Le Dr Barrett, qui est professeur de médecine buccale à la Faculté de chirurgie dentaire de l'Université de la Louisiane, déclare que le dépistage de l'artériosclérose comprend habituellement un examen du sang. "Si l'examen en laboratoire révèle de hauts niveaux de cholestérol et de triglycérides dans le sang, le patient souffre probablement d'un durcissement des artères".

Chacune des femmes qui participaient au projet de recherche a subi un examen du sang et on en a comparé les résultats avec ceux d'un examen des capillaires de tissus gingivaux prélevés chez chaque volontaire.

La comparaison révéla qu'un type de durcissement des artères se détectait d'abord dans les capillaires. "Chez certaines des volontaires, le début de durcissement des artères était visible dans les capillaires, même si cette formation

n'était pas apparente dans les épreuves sanguines", a déclaré le Dr Barrett.

Il fait aussi remarquer que les patientes dont les parois des capillaires étaient épaissies avaient invariablement des taux plus élevés de cholestérol et de triglycérides sériques.

Des radiographies ont également démontré, chez les patientes dont les parois des capillaires étaient épaissies, une diminution apparente du support osseux des dents qui est peut-être due à un mauvais échange entre les capillaires et les tissus de soutien.

Les volontaires étaient apparemment toutes en bonne santé, et âgées de 20 à 40 ans.

La fluoration

Un rapport réclame la fluoration pour la ville de Calgary

Le Dr L. Allan, du Service de santé de la ville de Calgary, signale que les habitants de cette ville ne doivent pas espérer de réduction effective de la carie dentaire à moins que leur service d'eau ne soit fluoré.

Dans son rapport annuel au conseil municipal, le Dr Allan vient de réclamer que Calgary se joigne aux autres villes comme Toronto, Winnipeg, Edmonton et Ottawa, qui distribuent de l'eau fluorée à 6.6 millions de citoyens.

Le gouvernement de l'Alberta accorde gratuitement des préparations fluorées aux enfants lorsqu'elles sont prescrites par ordonnance, mais selon le Dr Allen, cette distribution à la famille n'atteint qu'une faible partie de la population.

Il regrette que la fluoration des services d'eau "doive être approuvée par une simple majorité de citoyens dans un référendum".

Calgary a déjà rejeté la fluoration en 1966 par voie de référendum.

Massachusetts: rejet de projets de loi contre la fluoration

La Chambre des Représentants du Massachusetts a repoussé plusieurs projets de loi qui visaient à annuler la loi autorisant la fluoration, rendre les autorités locales responsables des dommages dûs à la fluoration, autoriser la distribution de comprimés de fluor par les services de santé locaux et permettre à ceux qui le désirent de recevoir de l'eau non-fluorée.

Par ailleurs, le Nevada étudie la possibilité de fluorer l'eau des écoles et a examiné la teneur en fluor des services d'eau de quelque 80 commissions scolaires et localités rurales.

Effects of radiation therapy in dental practice

T. A. Najjar, BDS, MSc, PhD
Montreal

Using two examples of radiation therapy for the treatment of oral cancer, the author reviews the biological effects of ionizing radiation at the chromosomal and cellular level. He goes on to describe the clinical uses of irradiation as well as acute and chronic manifestations of radiation damage encountered in patients treated by radiation therapy. Dentists should always be alert for signs of radiation injury in patients undergoing such therapy.

Se reportant à deux cas de radiothérapie pour le traitement du cancer buccal, l'auteur examine les effets biologiques de l'irradiation sur les chromosomes et les cellules. Il décrit ensuite l'emploi clinique de l'irradiation ainsi que les manifestations aiguës et chroniques des complications causées par le rayonnement chez les patients ainsi traités. Le dentiste devrait toujours surveiller de près tout signe de lésion due à l'irradiation lorsque le patient est soumis à un tel traitement.

Ionizing radiation of dental significance includes very high frequency electromagnetic waves (x-rays and gamma rays) and high velocity alpha and beta particles. The most important uses of such radiation are for diagnostic radiology and the treatment of radiosensitive and surgically inaccessible cancer, including oral malignancies. The hazards of diagnostic radiology should prompt every dentist to protect himself as well as his patients, especially pregnant women. The practitioner should also be familiar with the acute and chronic complications encountered in patients undergoing radiation therapy. Such knowledge enables him to handle such patients with greater competence.

This article describes two cases of oral cancer treated by radiation therapy and reviews the biological

effects, the hazards and clinical uses of ionizing radiation in relation to dental practice.

Case 1

History—A 65 year old white male came to the hospital complaining of a sore tongue for the previous six months. Earlier, he had experienced frequent pain from carious teeth. These had all been extracted and replaced by rather poor dentures.

The patient reported that he had smoked one package of cigarettes a day for the past 30 years. He also drank alcohol occasionally.

The medical and family histories were non-contributory. The physical examination was likewise negative.

Oral examination—Intra-oral examination revealed an ulcerated tumour mass involving the right posterior third of the tongue and the lower part of the pharyngeal fold. The mass, approximately 4 x 3 cm, was surrounded by an oedematous and erythematous margin. The lesion did not extend to the alveolar ridge or the floor of the mouth. The anterior portion of the tongue, palate, upper and lower alveolar ridges and floor of the mouth seemed normal. There were no palpable regional lymph nodes.

Radiographic examination—Extra-oral and intra-oral radiographs of the mandible and maxilla showed no abnormal radiolucency.

Histopathology—A biopsy was taken from the anterior portion of the ulcerated and surrounding erythematous, inflamed margin. Subsequently, microscopic examination revealed a well differentiated squamous cell carcinoma.

Treatment—Since the lesion involved the posterior third of the tongue and part of the oropharynx, radiation therapy was chosen in preference to disfiguring surgical excision and radical neck dissection. However, we did not discard the need for such excision in case radiation alone would fail to suppress the growth of the tumour and if metastasis to the regional lymph nodes were to eventuate.

We followed the case for three months after terminating immobilization of the tongue. By this time the tumour mass had disappeared and there were no signs of metastasis to the regional lymph nodes.

Treatment—Radium needles were inserted in the anterior portion of the tongue down to the floor of the mouth and the lower alveolar ridge. The needles also immobilized the tongue. Connected to each needle was a length of black silk suture. These sutures were

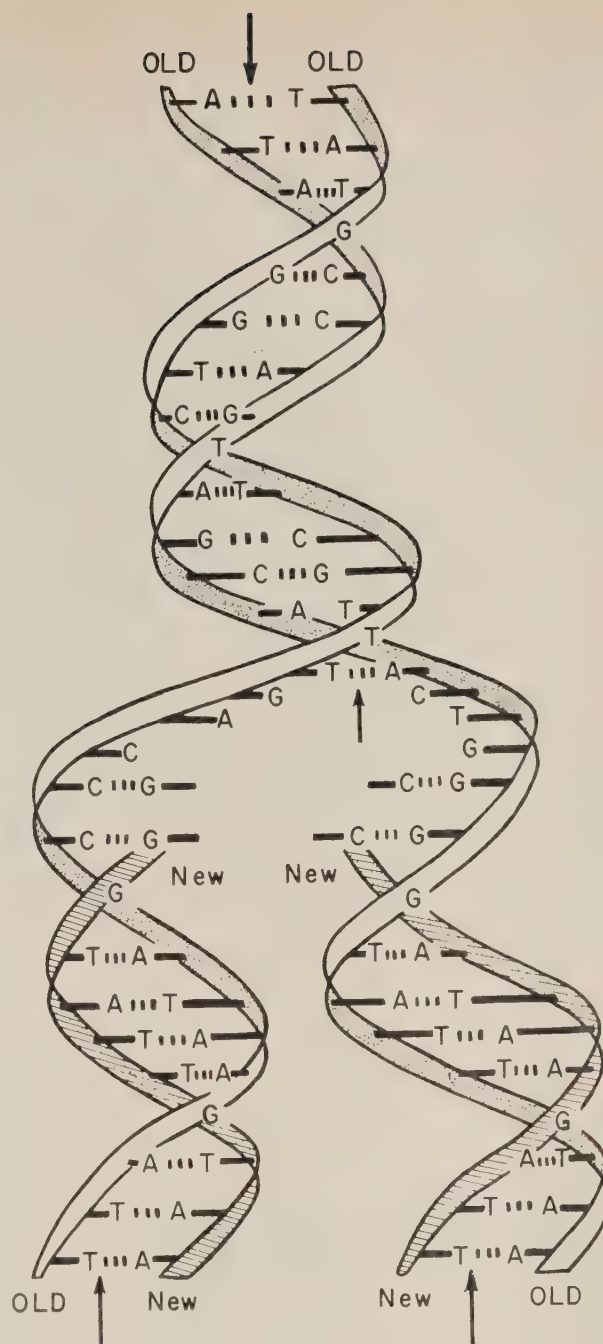


Fig 1 Structure of DNA according to the Watson-Crick model. The double helix is kept intact by the hydrogen bond (arrows). Ionizing radiation causes depolymerization and breaks the double helix acting on the hydrogen bond.

Four weeks later the tumour mass had diminished to about half its original size. The patient was then referred to a head and neck surgeon for radical neck dissection.

Effect on chromosomes—Ionizing radiation changes the nucleotide sequence of deoxyribonucleic acid

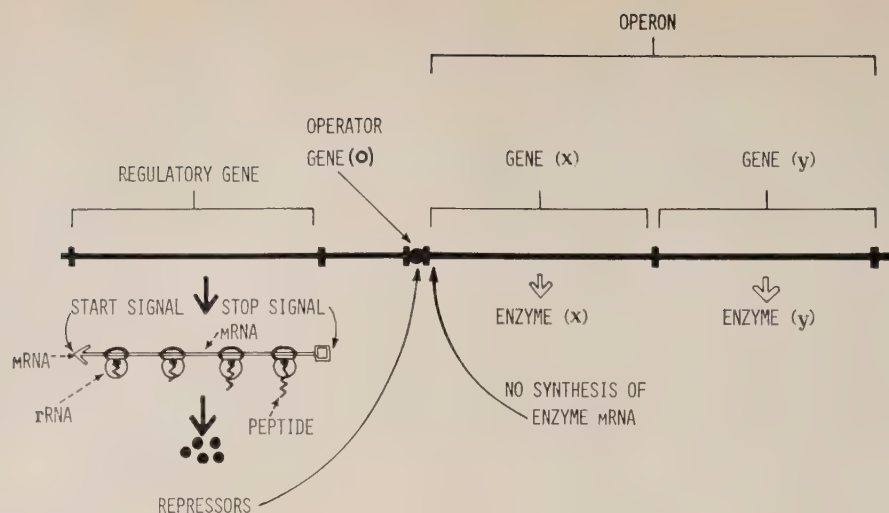


Fig 2 Diagrammatic model of a chromosome with its genes (nucleotide sequences). Radiation can affect the chromosome at the gene level, inducing point mutation which in turn leads to the production of abnormal structural proteins including cellular enzymes.

(DNA) and causes mutation. It can depolymerize and break the double helix of DNA (Fig 5). Radiation presumably disturbs nucleic acid metabolism as well as inhibiting DNA synthesis. Increased chromosome abnormalities and lethal mutation have been shown to occur if radiation is delivered during the mitotic cycle when DNA is being synthesized.

Point mutations occur without visible cytological alterations in the chromosome. They behave as changes in a single gene (Fig 6).

Radiation produces mutations at a rate proportional to the dose administered. The changes, once established, are irreversible except in the rare event of a back mutation. During the process of mutagenesis, however, some degree of recovery is possible in certain types of cells.

Most mutations induced by radiation are recessive and a high percentage of these lethal. Those which

affect successive generations occur in the germinal tissue, but corresponding changes may also take place in somatic cells. The latter, though not passed to the progeny, are genetic in the sense that they are transmitted to the new cells in each cell division. Some authorities consider somatic mutation important in the causation of cancer and leukaemia and significant in the ageing process.¹⁻⁴

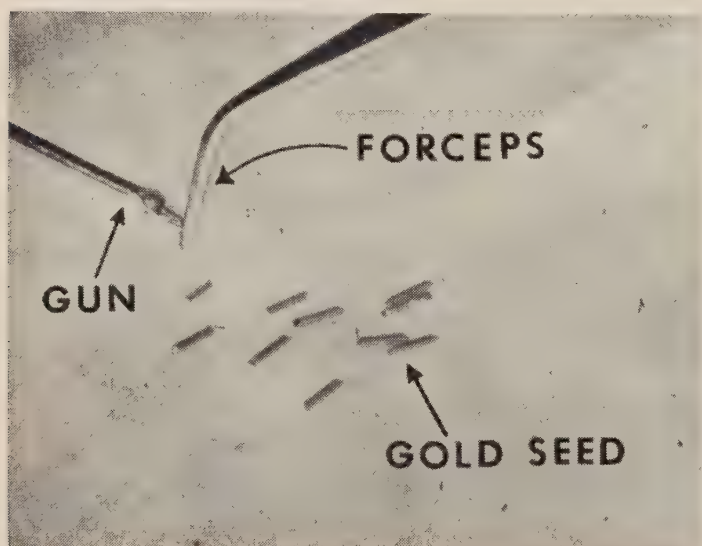
Effect on cells and tissues—Alpha particles have only a very short path in tissue, whereas gamma and x-rays are highly penetrating. Alpha particles produce dense ionization and consequently a high degree of tissue injury. This effect is observed when alpha-emitting radioactive materials are present within the body.

Ionizing radiation disrupts the macromolecules of the cells and can lead to cellular death. Thus, radiation has two major effects on human tissue. First, if gonadal cells or tissues are exposed there will be non-lethal mutation which affects future generations. Second, irradiation of somatic tissue either produces an acute inflammatory reaction or predisposes to malignant transformation.

Rapidly dividing and undifferentiated cells are generally most susceptible to ionizing radiation. The most sensitive tissues in the body are the gastro-intestinal tract, skin, bone marrow, embryonic tissue and gonadal tissues. Radiosensitivity appears to be influenced by many factors including the level of oxygen tension and the metabolic state. The most primitive and the most fully developed or adult cells are the most resistant cells in the body; on the other hand, the developing blast cells, those undergoing rapid changes and growth, are the most sensitive to ionizing radiation.

Though exposure of the embryo or foetus to irradiation can lead to a lethal damage, no one can accurately predict the outcome of a given dose of radiation at any stage of human pregnancy. Exposure of the developing embryo may cause abortion, malformation or possibly leukaemia in the infant. Radiation injury sustained late in foetal life is less harmful than early when organogenesis and differentiation are more

Fig 3 Radon gold seeds are fed into a special gun which inserts them in the tumour mass.



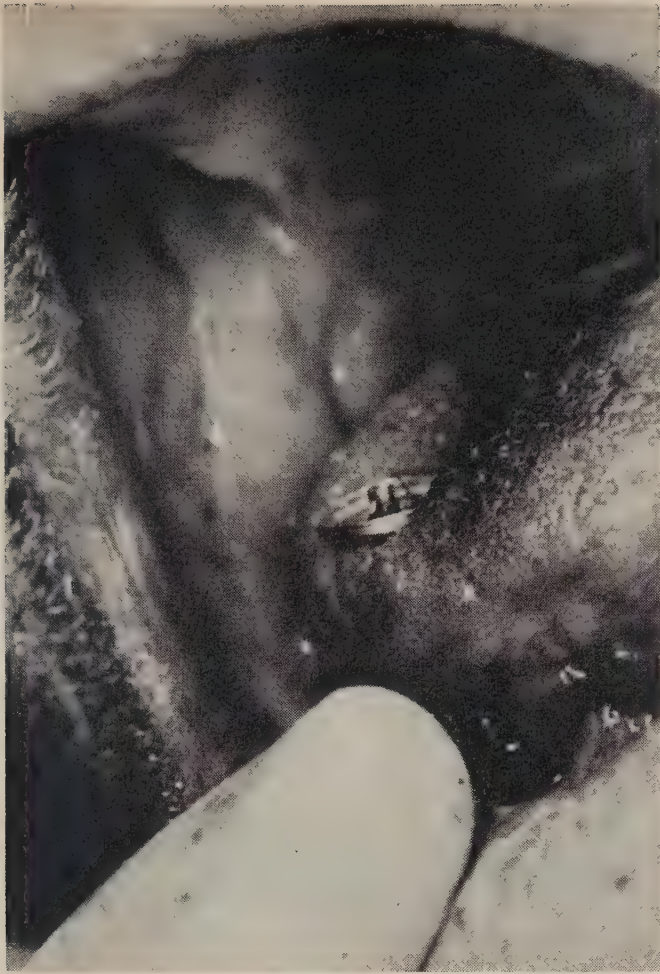


Fig 4 Stainless steel wire linking two Grubb's buttons. One attached to the tip of the tongue (left), the other below the chin (right), immobilizes the tongue after insertion of the radon seeds.



active and when each cell destroyed would have contributed a relatively greater part to the whole organism.^{5, 6}

Radiation injuries

There is no or minimal exposure to ionizing radiation from conventional dental x-ray units. Awareness of the hazards of diagnostic radiology should lead every practitioner to protect himself as well as his patients, especially a pregnant woman.

Dentists should also be familiar with the acute and chronic complications encountered in patients undergoing radiation therapy. A knowledge of these complications enables the dentist to handle such patients with greater competence.

Radiation injuries can be early or late. The early type results from a brief intense exposure, while later damage follows exposure to large single doses or prolonged exposure at lower intensity. Early injuries most probably result from beta or gamma rays through accidental exposure or handling of radioactive materials. Absorption of radioactive materials may occur from inhalation, ingestion or entrance into the body from an open wound. Such hazard is much more likely to result in chronic long-term effects.

Acute or early radiation injuries are manifested by nausea, vomiting and anorexia, particularly if the thorax and abdomen are exposed. Chronic or late ef-



Fig 5 Radium needles inserted into a tumour mass in the anterior portion of the tongue and floor of the mouth. The needles immobilize the tongue. The black silk sutures attached to each needle are fixed to the chin by adhesive tape.

fects may take the form of blood dyscrasias such as anaemia, purpura or leucaemia; accelerated ageing and shortening of life-span; elevated cancer incidence; retardation of growth; greater predisposition to cataracts and impaired fertility. Exposure of a relatively small area of the body does not produce the severe pancytopenia that results from whole body exposure to the same amount and type of radiation.

The panleucopenia is usually severe and progressive. In the granulopenic state, necrotizing nonpurulent reactions develop at the site of infection. Haemorrhage is most likely due to a combination of many factors such as thrombocytopenia and impaired prothrombin utilization. The anaemia develops slowly as a result of partial or complete cessation of blood formation, haemorrhage and increased blood destruction.

Additional factors such as the age, sex, environment, allergy, immunity, metabolic disorders and dietary deficiencies influence the lethality of total body exposure to ionizing radiation.⁷⁻¹¹

Clinical application

Radiation therapy is based on the fact that the fast growing malignant cells are highly susceptible to irradiation. The short wave gamma and x-rays are usually employed for this purpose.

Irradiation affects normal proliferating mucosal cells as well as malignant cells. It is therefore essential to protect normal structures from harmful exposure.

The commonest methods of irradiation are by delivery of emanations to the malignant tumour from a distance, direct implantation of radioactive agents into the tumour mass, or a combination of both methods.

Radioactive agents like radium, radon gas or activated iridium can be implanted into the tumour mass, avoiding the healthy tissues. But if x-irradiation is used, copper and aluminum filters are necessary to protect the untreated areas.

Radium and radon gas are enclosed in gold or platinum and are usually supplied as seeds or needles which are easy to apply and reduce the risk of necrosis in adjacent healthy tissue.

One of the commonest sequels in the irradiation of oral cancer is bone necrosis (osteoradionecrosis). This painful complication is usually associated with mucosal ulceration and bony sequestration. To circumvent such difficulties, it is advisable to remove any teeth at irradiation site.

Radiation therapy, as the most effective method for controlling the relatively few forms of cancer that are highly susceptible to irradiation, can be life saving. Elsewhere, this form of treatment is used palliatively to inactivate or halt the progress of a tumour.¹²⁻¹⁴

Summary

Two cases of oral squamous cell carcinoma were treated with radiation therapy using radon gold seeds in one case and radium needles in the other. The subsequent discussion described the biological effects, hazards and clinical applications of ionizing radiation as related to dentistry.

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The bone lesion in peridontitis

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The author suggests that loss of bone causes the initial lesion of periodontitis. Osteolysis in the lamina dura may result from transient or intermittent nutritional imbalance of the calcium phosphorus ratio. This activates a compensatory mechanism whereby calcium is mobilized from bone to restore serum calcium levels. Local irritants, he contends, aggravate the effect of bone loss in the periodontium. Their elimination by conventional periodontal therapeutic procedures will arrest bone loss caused by inflammation and infection but cannot halt resorption due to systemic causes.

L'auteur propose que la perte osseuse est à la source de la première lésion de la parodontite. L'ostéolyse de la lamina dura peut être le résultat d'un déséquilibre nutritif transitoire ou intermittent du quotient de calcium phosphoreux. Ce déséquilibre active un mécanisme par lequel le calcium de l'os est mobilisé afin de rétablir le niveau de calcium du sérum. Les agents irritants locaux augmentent l'effet de la perte de l'os dans le parodonte. L'élimination de ces agents irritants par des procédés thérapeutiques conventionnels suffira pour arrêter la perte de l'os causée par l'inflammation et l'infection, mais elle ne peut cependant pas freiner la résorption due à des causes systémiques.

Discussions of the aetiology and pathology of periodontal disease usually begin with the soft tissues of the mouth and the effects of local irritants like calculus, plaque, occlusal stress, food impaction and oral bacteria. Systemic factors are usually treated as background elements that exacerbate the effects of the local irritants.^{1,2} Only later in the discussion is bone pathology considered, and then only as a result of soft tissue pathology.

Soft tissue pathology is important. But in the final analysis, it is the presence or absence of bone that determines the fate of the teeth. This article explains why this is so.

Osteoclasia, osteolysis

Bone is the mineral reserve of the body. Under normal conditions, calcium, the major mineral component of bone, is in equilibrium between bone and blood. The exact mechanism is not completely understood but we do know that serum calcium is maintained very constantly at 10 mg/100 ml. Bone is constantly being formed, resorbed and rebuilt. During periods of growth, apposition exceeds resorption and increases the amount of skeletal tissue. During adult life, the balance between apposition and resorption becomes stable and the size of the skeletal tissue becomes fixed.

There are two kinds of bone resorption. One of these, osteoclasia, occurs in the presence of osteoclasts. We do not know how these multinucleated cells perform their function; nor is there unanimity about their formation and ultimate fate. Physiological resorption used by nature to remodel bone occurs by what Bélanger³ calls osteolysis. It is a method of internal resorption in which osteocytes play a major role and the osteocytic lacunae are enlarged.

The basic difference between these two methods of bone resorption is that osteoclasia emanates from bone surfaces, such as Haversian and Volkmann's canals, while osteolysis occurs deep within the bone. Bélanger⁴ considers osteoclasia a specialized response to the presence of abnormal skeletal material such as previously altered bone. He defines osteolysis as an "active physiological phenomenon taking place within the intimacy of bone under the influence of osteocytes, whereby bone matrix is modified and bone salt is lost."³ In this discussion, we are concerned with osteolysis.

Nichols and his various co-workers⁵⁻⁸ have indicated what probably takes place in their studies of biosynthesis in bone cells. One of the major functions of bone cells (osteoblasts) is the formation of collagen which constitutes over 90 per cent of the bone matrix. Under stimulation of parathormone (PTH), mature bone cells (osteocytes) will form collagenase, and lactic acid will be found along the borders of the cells. The collagenase and the acid promote decalcification and simultaneous dissolution of the decalcified collagen. The freed calcium then passes into the blood stream to maintain serum calcium levels. Subsequently new bone fills in the resorption space.

Using labelled thymidine, Bélanger⁹ showed that cells move from the apposition surface toward areas of lysis deep within the bone before they disappear. He called it a "constant replacement stream moving in from the border" to the deeper areas where osteolysis occurs. Krook,¹⁰ using triple labelling, confirmed

this movement of bone cells and matrix. Under normal conditions, there is equal apposition and resorption. There is no loss of bone or cavity formation despite the fact bone has been resorbed.

Calcium, phosphorus, parathyroid hormone

There is a good deal of evidence that the level of serum calcium controls the function of the parathyroid gland. Hypocalcaemia stimulates the formation of PTH while hypercalcaemia stimulates the formation of thyrocalcitonin which slows down the resorption process until isocalcaemia is attained. These reactions are independent of nerve control.

Krook and others¹¹⁻¹⁷ have shown that the condition known in animals as osteodystrophia fibrosa can be caused by a nutritional secondary hyperparathyroidism. It causes bone lesions that resemble human osteoporosis. The lesions have a predilection for the lamina dura. The lamina dura has less organic matrix and more inorganic salts than other bone. It is also the site of the highest metabolic activity. In experimental studies, the bone lesions in the jaw became so severe that the teeth were lost spontaneously.

This nutritional imbalance can be induced by a low calcium or high phosphorus intake or both. The result in each case is hypocalcaemia, stimulating the formation of PTH. This depresses the serum phosphorus level through increased renal excretion of phosphorus. In attempting to restore serum calcium to its proper level, some increased calcium is absorbed from the intestines and some is reabsorbed from the kidneys. But, most importantly, PTH intensifies the osteolytic process to free more calcium from the bone. The rate of resorption gradually outpaces the rate of apposition, resulting in loss of bone. As long as the dietary imbalance persists, isocalcaemia will be maintained at the expense of continuous bone resorption.¹¹⁻¹⁷

The action of PTH is fast but its duration is limited. When serum calcium and phosphorus levels are disturbed, the body quickly responds to correct them. In most instances bone resorption first takes place by osteolysis in the lamina dura, starting on the crest of the alveolar ridge. In human beings, any deficiencies in calcium or phosphorus intake vary from day to day and from meal to meal. Thus bone destruction is intermittent, each new attack starting where the preceding one ends.

Krook¹⁶ induced bone destruction in cats by feeding them a low calcium high phosphorus diet. Upon reverting to an optimal calcium phosphorus ratio, he was able to restore bone to its normal appearance in a matter of 4-5 weeks.

Gries¹⁸ produced osteodystrophia fibrosa by feeding horses optimal amounts of calcium but 3.7 times as much phosphorus. But more important, from the dental point of view, was the complete loss of the lamina dura after 30 weeks.

Extensive bone destruction has also been observed in monkeys fed a diet with a calcium phosphorus ratio of 1:3.6.¹⁷ The first bones to undergo change are the facial and gnathic bones. These can swell so markedly as to constrict the nasal passages. But with proper reversal of the diet, monkey bone can be restored to its normal appearance unless excessive fibrosis has taken place.

Krook,¹⁰ Henrikson¹⁹ and Bélanger²⁰ have demonstrated not only osteolysis but also a similar condition in the cementum of the tooth. They called this phenomenon cementolysis. It is essentially the same process as osteolysis modified by the shape and location of the cementum around the dentine of the tooth.

In experimental studies the animals are subjected to far greater stress than is seen in man. The lesions in animals are therefore far more severe than what we see in clinical practice. They appear earlier and can be made to disappear faster because the total environment is controlled.

It may be argued that the animal experiments do not necessarily apply to man. This may be true but it is difficult to overlook the fact that this type of bone pathology has been observed in dogs, cats, monkeys, pigs, horses, cattle, goats, mules, and even a captive tiger.^{13, 19}

Normally, the periodontal fibres are attached to the alveolar bone and the cementum. When that support is withdrawn from either or both ends, nothing remains to hold the fibres in place. Fibrous connective tissue then replaces the areas of bone loss. These areas cannot sustain the effects of local irritants, thereby substantiating Ham's dictum that "connective tissue is the stage upon which the great drama of inflammation is unfolded."²¹ The oral manifestations of periodontitis will now be seen as secondary to the primary bone lesion.

Compensatory mechanism

Put in the simplest terms, I suggest that bone loss is the initial lesion in periodontitis and that further oral changes follow. The problem is, of course, far more complex than this simple explanation.

Transient hypocalcaemia initiates a mechanism that compensates changes in serum calcium. This is a physiological reaction for the purpose of correcting a temporary imbalance in serum levels. It differs from primary hyperparathyroidism where a pathological process causes continuous secretion of PTH that serves no useful purpose.

Without this mechanism, tetany results when serum calcium levels fall too low. But this article is only concerned with the basic mechanism, not with the complex cellular reactions.

There is much more to bone physiology than just calcium, phosphorus and PTH. Other hormones, the formation of matrix and the deposition of other minerals are equally significant. Serum also has many additional components besides calcium and phosphorus. Moreover, the effect of vitamin D must be taken into consideration. And while bone resorption proceeds, other processes occur simultaneously within the cells. Each chemical reaction in the body involves enzymes, protein synthesis, cell membrane diffusibility and oxygen utilization. But the basic compensatory mechanism must not suffer for if serum calcium falls, many other cell functions may likewise be impaired.

Supporting evidence for the hypothesis advanced in this article comes from India where periodontal disease is most severe and manifests itself early. There the average intake of calcium is 347 mg/day. The Indian people are subject to other nutritional areas,

but only calcium deficiency affects resorption of bone.

The ratio of dietary calcium and phosphorus is just as important as the amount of calcium. Milk, the food nature intended for the newborn, should indicate the desirable ratio intended for each species. In human milk the calcium phosphorus ratio is 2.2:1. The average American diet includes 1,116 mg of calcium per day, but phosphorus ingestion is 2.8 times as great. James²² has shown that bone loss results when the calcium phosphorus ratio exceeds 1:1.52. The greater the ratio of dietary phosphorus, the more bone is lost. James was able to arrest bone loss when he fed his patients the proper calcium phosphorus ratio for periods of up to 63 months.

Local irritants

This does not mean that present therapeutic measures in periodontitis are wrong. But they should be seen in proper perspective. As secondary manifestations, we must look at local irritations as exacerbating a systemic problem. By eliminating these irritants, we can reduce inflammation and eliminate infection from the mouth. Local treatment will halt the loss of bone caused by inflammation and infection but cannot stop resorption due to systemic causes.

Proper oral hygiene will assure a healthy, infection-free mouth. Since periodontal disease is intermittent and slowly progressive, present therapeutic procedures are of great value. But we must not overlook the role of thyrocalcitonin and parathyroid hormone. A minor imbalance between these two hormones can cause continuous loss of bone without any overt sign of hyperparathyroidism.

Nutritional secondary hyperparathyroidism is one of the keys to the basic pathology of periodontitis. But we must learn more about hormone chemistry, calcium metabolism and the role of the other minerals in bone physiology in order to understand the role of nutrition in dystrophic diseases. The answers could yield more effective methods for controlling periodontitis.

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Disciplined observation as a diagnostic tool

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Examination of the patient should never be limited to the complaint which has led him to seek treatment. It should start by noting conditions that can be recognized by observation, such as posture, gait, physical status, complexion, facial expression and speech. The resultant disclosure of particular signs is essential in formulating an accurate diagnosis.

L'examen du patient ne devrait jamais se limiter au mal qui l'a poussé à consulter le praticien. L'attitude du corps, la démarche, l'état physique, le teint, l'expression faciale et la manière de parler devraient être étudiés en premier lieu. Les signes particuliers ainsi révélés forment un outil essentiel à la formulation d'un diagnostic exact.

To arrive at a diagnosis, the clinician follows the same procedure as a detective who seeks every trace of available evidence by the method most likely to yield significant clues. The clinician, too, must adopt an efficient examination procedure. Disciplined observation is the first step in such a technique.

Valuable information can be obtained while the patient is talking, by noting his complexion, facial expression, physical constitution, posture and gait. Other facts may be gleaned from an evaluation of his movements, manner of dress and of speaking, mental attitude, as well as the characteristics of his head, face, skin, hair and eyes. Such information is often more significant than symptoms because patients may exaggerate or minimize pertinent health facts. Knowledge gained from observation may also uncover hidden conditions that might otherwise escape notice.

Perceptive observation of a patient is an art developed by experience and a mental discipline that enables the examiner to establish rapport and absorb a maximum of objective information. No rigid pattern is suggested, but sufficient examples are given to illustrate the point.

Head

The head discloses many signs of which the patient may be unaware. Colour, texture and appearance

of the hair can reflect an abnormal oral condition. Careful inspection of the scalp can likewise advance important information. Enlarged temporal veins may be indicative of high blood pressure, anxiety or impaired circulation, while spasmodic movement of the head may arise from a nervous disorder, habit, senility or simply normal conversational nodding.

Face

The face is most informative because it is so expressive. Few patients have a vacant countenance in a dental office. Indeed, fear, anxiety, frustration and distrust may be quite overt. The astute clinician, perceiving these emotions, must trace and identify the patient's underlying problem and attempt to eliminate it.

Apart from purely normal dimensional variations, asymmetry can reflect an old injury, deleterious habits or infection. Opening and closing the jaws during speech or other forced movements may point to possible temporomandibular joint dysfunction that can affect speech, occlusion and mastication. And the shape of the maxilla and mandible can signal past, present, or possible future changes.

The patient's respiration should not be overlooked. Gasping or swallowing for air after a few sentences or laboured breathing may be due to a nasal obstruction, a lung disorder or nervousness.

The shape of the nose can tell us if there has been a prior injury, deviation of the septum, or distortion due to possible intra-oral swelling. Its skin may be seamed by the oft disputed veins of alcoholism; its texture and colour may also reflect possible hypertension.

The eyes and eyelids should be carefully checked. Iritis or conjunctivitis and facial cellulitis adjacent to the eyes can be associated with ethmoiditis or sinusitis, elucidating otherwise inexplicable dental pain.

Skin

Skin colour can be of exceptional value to the practitioner. It may reaffirm the medical history or indicate some other circulatory, emotional or systemic disturbance. A simple flush, for example, may be caused by

elevated temperature, menopause or hypertension. Pale individuals, on the other hand, may be suffering from tension, anaemia, cardiac insufficiency or just plain fear.

Cyanosis may indicate hypotension, syncope or shock.

A jaundiced patient should be carefully evaluated for possible hepatitis or other liver malfunction.

Rough, leathery skin may result from excessive outdoor exposure whereas a soft, smooth complexion is more characteristic of sheltered pursuits. People who fall in the latter category may have a timid, inverted personality.

Moist skin may be normal or can signify an elevated temperature, fear, excitability or hypertension. Conversely, dry skin can be normal or due to endocrine dysfunction, allergy or eczema. Fever and infection can give rise to chapped lips, as can mouth breathing or exposure to sun and wind.

Lips

The corners of the lips may reveal cheilosis attributable to nutritional deficiencies, ill fitting dentures, dermatitis or hormonal dysfunction. Cyanotic lips can be indicative of circulatory or cardiac disturbance; alternatively, they may presage syncope and shock.

Tongue

Though not a reliable diagnostic guide, the tongue can provide useful clues. Colour, texture and configuration are of special interest.

A purplish, fiery red or coated tongue may signal nutritional imbalance, blood dyscrasias, gastro-intestinal disturbances, deficiency diseases or simply mouth breathing. However, coloration is not necessarily indicative of a disorder; in fact, confectionery and certain breath deodorants can induce unusual and exotic colours in the tongue.

How much does it cost you to smoke?—The writer has no way to appraise your cost from the standpoint of health hazard, except that he has himself been subjected to surgery and has had a complete laryngectomy, which might have been caused by his previous excessive smoking habits.

Regardless of health hazard, what are some other benefits of not smoking?

First, perhaps one's home is cleaner and more wholesome.

Secondly, we have fewer things to carry in our pockets and purses.

Thirdly, we could, by saving and investing the money we would otherwise spend on smokes, provide for a retirement income "fit for a King."

No I am not fooling! If a young couple aged 25, who

The texture varies with different individuals, but a smooth shiny tongue should arouse suspicion as to a possible vitamin deficiency, xerostomia or hypertension.

Rough, scalloped, kerototic lateral borders can tell how long teeth have been missing and whether there are any sharp edges. Pain may arise from ulcerations, calculus in the salivary ducts, carcinoma, trigeminal neuralgia or trauma. Since the tongue is such a common site for many benign and malignant lesions, it merits the closest vigilance.

Saliva

Saliva has considerable value in assessing a patient's behaviour. Frequent swallowing signifies a copious flow. Conversely, licking of the lips and deep swallowing in order to stimulate salivary flow may reflect hidden tension, frustration, or simply fear of dentistry. It may be difficult to treat such patients—especially if they cannot sustain prolonged operative procedures at a single sitting.

Comment

Disciplined observation of clinical signs is an essential working tool in evaluating the many manifestations of diseases occurring in the mouth and surrounding structures. As the starting point in the process of differentiating the possible causes of a disturbance it can be as challenging and rewarding as the solution of the most exciting mystery.

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each smoke one pack of cigarettes per day, decide to quit and save what they formerly spent on cigarettes, until retirement at age 65, they would save, say, 90 cents per day or \$328.50 per year.

Invested annually to produce 8½ per cent compounded per annum, this regular investment would accumulate by retirement age 65 to a capital sum of \$97,130.88! Enough to make one's retirement a luxury holiday.

Why don't you stop, if not for health reasons, for the benefits the savings can provide for you? Thoroughly enjoy your leisure years. Kick the habit and start another—regular monthly investments. Not only may your chances of being alive be greater, but you will have the means to enjoy the most important years of your life.—H. S. Leybourne.

Acute temporomandibular joint syndrome treated by occlusal correction under general anaesthesia

John Vincelli, DDS
Montreal

Three cases of painful temporomandibular joint abnormality with concomitant discrepant centric relation and centric occlusion were relieved by occlusal correction carried out under general anaesthesia. Symptoms subsided after the teeth were reshaped, allowing the joints to function without tooth interference. Occlusal correction under general anaesthesia should be considered in similar cases before resorting to surgical correction of the joint abnormality.

Chez trois patients souffrant d'une douloureuse anomalie de l'articulation temporo-mandibulaire accompagnée d'une variation entre la relation centrée et l'occlusion centrée, la rectification de l'occlusion effectuée sous anesthésie générale a soulagé cette condition. Les symptômes ont diminué après l'ajustement des dents afin de permettre l'engrènement des cuspides des dents opposées sans aucune interférence. La rectification de l'occlusion sous anesthésie générale devrait être envisagée dans d'autres cas du même genre avant de recourir à la rectification chirurgicale de l'anomalie de l'articulation.

The temporomandibular joints (TMJ) are unusually resistant to bacterial invasion. Problems in this part of the masticatory organ nearly always result from a mechanical disturbance induced by tooth articulation that is not co-ordinated with correct temporomandibular joint relationships.¹

Occlusal discrepancies demand an abnormal adaptation from the temporomandibular joints. Correction of these discrepancies is possible only if they are accurately located. This in turn requires that the joints be made to function physiologically without this adaptation. When the joints are acutely painful, however, physiological joint function may be impossible in the waking state. A vicious cycle may develop in which the pain demands further adaptation. This increases the malrelationship by extrusion of the teeth which, in turn, produces more pain. The teeth, by encroaching severely on the freeway space, may then serve as constant stimuli and keep the muscles of mastication in a constant state of maximum contraction. We recognize this as muscle spasm.

Deep general anaesthesia eliminates neuromuscular adaptation and permits the temporomandibular joints to function in accordance with skeletal design. It is then possible to correct the occlusal relationship to harmonize with the remainder of the masticatory organ.

Case 1

This 42 year old woman came to me on November 11, 1964, complaining of severe bilateral TMJ pain. Her mandible seemed to hang continuously in a protrusive position as if to avoid tooth contact. When the teeth were in maximum contact, her face appeared unnaturally long. She gave the impression, and complained, of general weakness and debility. She could not tolerate any TMJ pressure resulting from touch or function. Lowering the head aggravated the ache and made sleep virtually impossible. The pain radiated from both joints to the ears and under the eyes. The left joint was slightly more painful. The patient could not chew food of average consistency without experiencing unbearable pain. Codeine preparations, tranquilizers and muscle relaxants, which had given temporary relief earlier, now had little effect. Consequently, her nerves, as she termed it, were "at the breaking point" because of her acute distress, lack of rest, inability to sleep and anxiety about her job.

Symptoms commenced five months previously, in June 1964. At that time pain and swelling in the lower jaw necessitated the removal of four deeply impacted third molars under general anaesthesia. The patient was kept in hospital for one week. Severe postoperative pain, diagnosed as localized osteitis, forced her to remain at home for another week. Subsequently, she experienced further persistent pain in the teeth, temporomandibular joints and jaws. The oral surgeon prescribed narcotic analgesics but these gave little relief. He urged her to take a vacation but this was impossible at the time. He then referred her back to her own dentist for occlusal correction, explaining that the occlusion was often impaired after removal of severely impacted teeth.

During August the patient had three appointments with her dentist who did selective grinding with negative results. In September she was referred to her physician because of deteriorating health. She now complained of pain in the maxillary sinuses and under the eyes; but clinical and radiographic examination by an otolaryngologist again failed to elicit any cause.

November 11, 1964—My examination revealed a gross discrepancy between centric relation and centric occlusion, a slide to the right in the last instant of closure, a flat occlusal plane and very little anterior guidance.

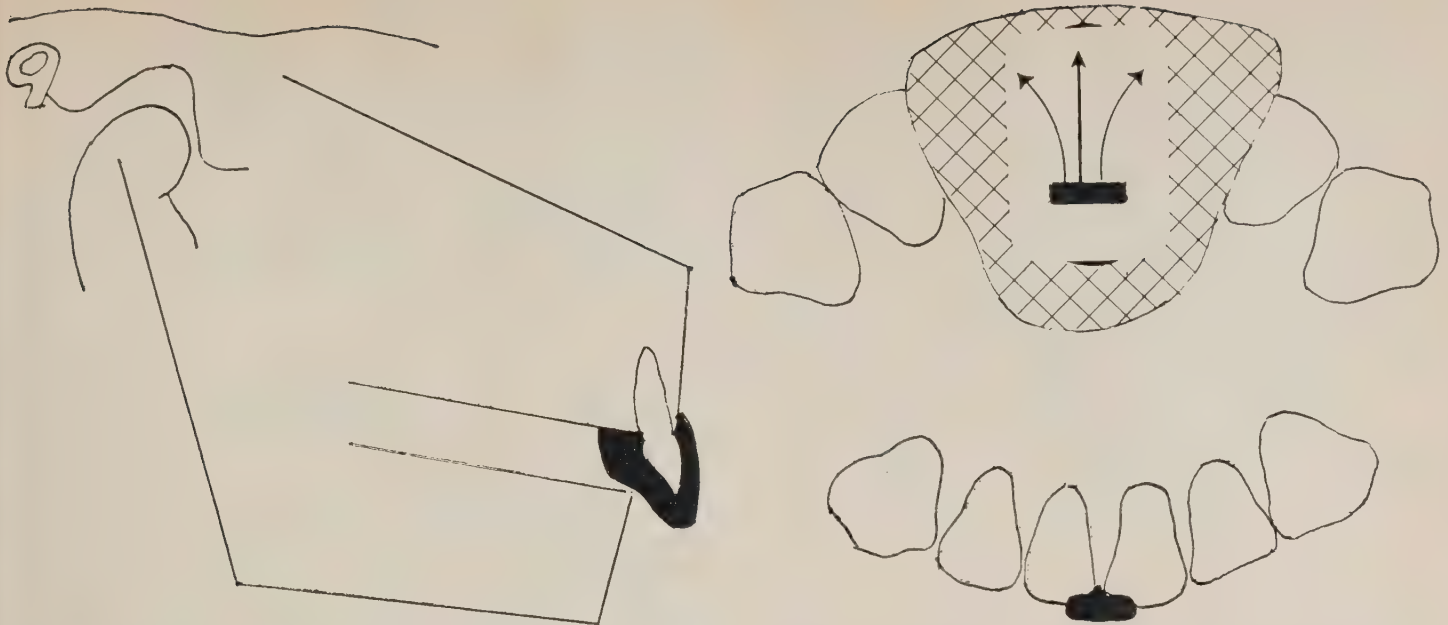


Fig 1 Diagrammatic representation of plastic anterior stop. Left, sagittal view. Right, palatal view. Only the incisal surfaces of the lower central incisors make positive contact with the centre of the stop. The stop prevents posterior tooth interferences, and after approximately 20 minutes of function the temporomandibular joints start to behave on a skeletal basis. The only contact is anteriorly at the end of the lever from which the muscle force is more easily controlled and balanced with the temporomandibular joints. As the mandible moves forward the vertical rise of the stop places the muscles at a mechanical disadvantage, thereby facilitating physiological joint function. It is then possible to avoid joint distraction, one of the major purposes of anterior guidance.

The upper left bicuspid was in buccoversion. Functional movements were ascertained with difficulty on account of the severe pain. Impressions for study casts, taken under duress, exacerbated the acute pain.

The history and clinical findings were suggestive of acute bilateral TMJ inflammation arising from a pre-existing malrelationship of the jaws. Triggered by the difficult and lengthy operation with its subsequent complications, this condition had now degenerated into a vicious cycle.

I prescribed complete rest for the jaws and joints, restricted speech, facial application of hot moist compresses and 10 mg chlordiazepoxide (Librium, Roche) three times daily, the last dose to be taken a half hour before retiring. The patient was requested to return on the following day for occlusal correction.

November 12, 1964—The patient received 20 mg Librium orally a half hour before the appointment. A plastic anterior stop² constructed on the study models was positioned on the upper central incisors (Fig 1). She was instructed to make protrusive and lateral movements with her lower central incisors contacting the lingual platform of the plastic stop. Using articulating paper, the paths—three-dimensional gothic arch tracings on the stop—were recorded and the marks reduced with a fine stone. After some 20 minutes of this treatment the joints seemed loose and comfortable. We then commenced terminal hinge contacts and began to correct tooth form as occlusal defective contacts were located. Complaining of the pain, the patient could only tolerate three or four minutes of attempting to obtain centric contacts, and then broke down emotionally.

Repeating the previous prescription, she was given another appointment for the following week.

November 18, 1964—Twenty milligrams of Librium were administered prior to the appointment. The patient could again make protrusive and lateral movements with her lower incisors contacting the plastic stop; but contacts on her posterior teeth still caused excruciating pain. At no time did the dull, constant, though tolerable, ache subside. However, any attempt at exerting force on the posterior teeth produced acute and unbearable pain. In the approaching cold weather the pain was aggravated outdoors.

December 1, 1964—An acrylic occlusal biteplate was positioned on the lower teeth but the patient could not tolerate this appliance.

December 10, 1964—A Hawley biteplate was constructed for the upper jaw to take the posterior teeth out of contact. The patient was also shown how to perform isometric muscular exercises and asked to repeat these 10 times daily. These measures gave some relief at first, but two days later the pain returned and became more severe.

February 3, 1965—The patient's condition was unchanged. She wore the Hawley appliance periodically. It gave her intermittent relief. Her general health was deteriorating and her physician, fearing hypochondria, suggested psychiatric care. The patient was so depressed that when her employer contacted me I strongly advised that she take a vacation in a warmer climate.

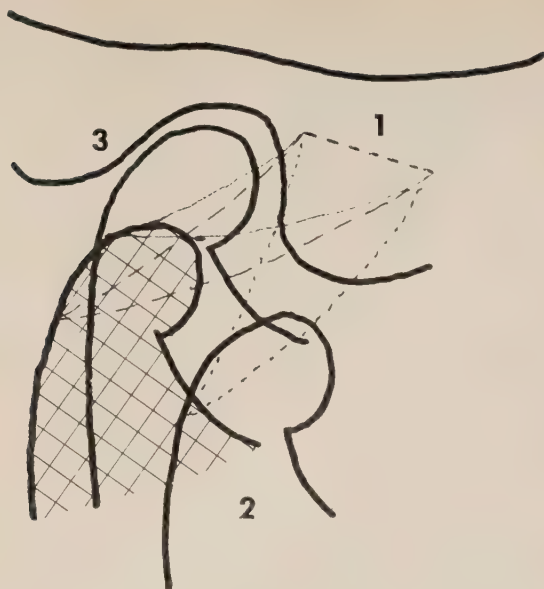


Fig 2 Author's representation of ideal TMJ function and role of the temporomandibular ligament. The latter (1) acts like a guidewire from the protrusive position (2) to the post-glenoid lip (3). When the condyle reaches this position the ligament ceases to guide and the condyle travels the rest of the way to its terminal position on a completely bony route. Ligaments, if subjected to a strong force, will stretch and tear, and are not designed to resist the force of gravity; only bone can do this. The terminal position of the temporomandibular ligament is therefore loose as a consequence of upward and forward travel by the condyles. This allows the condyles to rotate for approximately 12 degrees, at which point the ligament becomes taut and initiates translatory (forward) movement. The ligament limits and guides the condyles within the functional area of the glenoid fossae. The muscles provide the force that moves the condyles within this ligament limited area. Normally, muscles do not use ligaments as a fulcrum to move the mandible; they use the superior, posterior, anterior and medial walls of the glenoid fossae. Only the bony configuration of the glenoid fossae (through the meniscus) is designed to act as a fulcrum and to resist the force of gravity with a minimum expenditure of energy. The shaded portion of the diagram represents the most retruded but not the terminal position of the condyle. To reach this terminal and most stable position, the condyle must travel upward and forward another 0.05 mm.

April 1965—The patient returned from her southern holiday in better physical condition but still suffering with the same symptoms. During her stay she subsisted on a completely soft and liquid diet. She also reported that pain increased in both joints when the aircraft took off and began to climb, and persisted until the plane landed. This finding confirmed the original diagnosis.

Acute TMJ inflammation could have been responsible for all of her symptoms: the inability to exert force while using the joints as a fulcrum; the constant pain, aggravated on bending the head; tenderness of both joints to touch; and the inability to chew foods of average consistency. It accounted for the elongated facial expression and the inability to obtain terminal hinge markings on the posterior teeth. It also explains why attempted occlusal correction and the use of a Hawley biteplate failed to give lasting relief.

I concluded that the occlusal forms of the teeth could not be properly corrected in the absence of physiological joint function. A consultation was arranged with the oral surgeon and radiologist, at which time I proposed occlusal correction under general anaesthesia. Two series of lateral TMJ radiographs were made in order to (1) eliminate any possible tumours

or degenerative changes which could interfere with normal mandibular function, and (2) depict condylar relationships in centric relation, centric occlusion and maximum opening. The radiographs revealed no tumours and no arthritic or degenerative joint pathosis. The condyles seemed to function exclusively in a horizontal plane and showed very little vertical change of position. Horizontal condylar movement required to complete opening was abnormally long (approximately 14½-15 mm). The condyles were well ahead of the articular eminence.

May 3, 1965—Deep anaesthesia was induced, utilizing a nasotracheal tube and a throat pack. The patient was supine with the head tilted back and resting in a rubber doughnut.

One definite position was assumed by the mandible relative to the skull. Holding the chin, terminal hinge opening and closing movements were effected with very little effort. The opening and closing arcs appeared identical. The discrepancy between centric relation and centric occlusion was now much greater than had been observed in the waking state. There was some resistance to lateral and protrusive movements, but the mandible returned to its home position almost unaided.

The dominant characteristic was a stable terminal hinge action. In translatory motion the condyles seemed to adhere to the bony configuration of the glenoid fossae, producing very tight joint behaviour. Centric occlusion (maximum intercuspation) could be effected; but the mandible had to be held there by the operator; otherwise the tooth relationship gave way to the terminal joint positioning.

The condylar elements seemed to seat high in the fossae as though they were physically supported. Their position seemed stable during the hinging movements. This characteristic of TMJ stability is strongly exhibited under general anaesthesia.

Terminal hinge action was readily displayed. A pure hinge movement was observed by gently holding the chin. Opening and closing arcs were activated without effort. Identical arcs of closure were repeatedly traced. This would not be possible unless the condyles were physically supported by a bracing condyle-fossa relationship.

Using articulating paper and a small diamond stone, the occlusal forms of the teeth were reshaped to interdigitate maximally at the end of the terminal hinge arc of closure. When the maxillary left cuspid made premature contact with the lower teeth, this tooth together with the posterior teeth was reshaped until all anterior teeth were brought into approximately equal contact. All the factors of articulation were considered: plane of occlusion, Curve of Spee, Curve of Wilson, cusp height and position, and anterior guidance. The final result was a tooth form and relationship which stopped jaw closure with the posterior teeth, yet permitted the mandible to move about in empty function in an observable harmony with the temporomandibular joints.

The operation lasted three hours. The anaesthetist experienced some difficulty with induction and recovery from the anaesthetic. He attributed these phenomena to the overall use of narcotics and tranquilizers.

The patient's joints remained tender for approxi-

mately one week after the operation. However, she only required codeine once, two days postoperatively.

May 11, 1965—The patient returned for examination and refinement of the occlusion. The plastic anterior stop was again positioned. The joints were exercised, using the stop as a guide, for approximately 10 minutes. Terminal hinge contacts were refined and tested with 1/1,000 inch cellophane strips, leaving slightly more than 1/1,000 inch clearance on central and lateral incisors.

June 1965—On June 8 a three-quarter crown preparation was made for the left maxillary second bicuspid. The finished crown, to correct the buccover-sion, was cemented on June 21.

December 1965—The patient reported that “she felt and looked like a new person.” The previous symp-toms had not recurred. Her own dentist now com-menced restorative treatment and kept her for a two hour appointment without any difficulties or postoper-ative complications.

December 1965-October 1969—Four subsequent fol-low-up checks with her dentist (May 1966, July 1967, January 1968 and October 1969) disclosed no further symptoms or problems.

Case 2

This 23 year old married woman, who complained of constant dull pain in her jaws for a few months, was referred to me on June 23, 1965, for occlusal correction. The pain had worsened progressively and she was in obvious distress. It was extremely diffi-cult to examine her. She had protruding maxillary anterior teeth. There was also a marked discrepancy between centric relation and centric occlusion. She could not chew solid food. Both temporomandibular joints were very tender to palpation. Pain was con-stant in the joints and ear regions. I could not secure impressions for study casts. Occlusal correction was likewise impossible. I therefore referred her for radio-graphic examination of the joints.

The patient had worn a Hawley biteplate for two years in a futile attempt to correct the protrusion of the maxillary anterior teeth. Recently, an unlicensed European dentist had tried to elongate the mandible with a removable appliance to correct her retruded chin. Because this dentist was a relative, she de-clined to give further information or show the appli-ance. She only acknowledged that she had stopped wearing it since her pain became worse.

June 28, 1965—The radiographic report was negative. At the request of the patient's husband, I arranged to perform occlusal correction under general anaes-thesia two weeks later. The pain became progressively worse during this interval. Analgesics and tranquil-izers had no effect. The patient could not masticate and was restricted to a liquid diet.

July 6, 1965—The patient's occlusion was corrected in a three hour operation under general anaesthesia. In-duction and recovery difficulties were encountered as

in the previous case. The joints were tender for the next two weeks, but analgesics were not required.

July 20, 1965—Occlusal refinement was postponed for another two weeks because some joint tenderness was still evident on manipulation of the mandible.

August 3, 1965—The occlusion was checked and re-fined. I recommended complete restorative treatment including replacement of old full crown amalgam fill-ings in the posterior teeth. I also told the patient that she had two severely impacted third molars which should be removed with great care. I believe that these teeth can again impair normal joint function by pro-moting extrusion of the second molars.

The patient subsequently left Montreal with her husband who was transferred abroad. I learned through her father, however, that her symptoms had not re-curred up to September 1969.

Case 3

This 23 year old single woman came to me on September 30, 1966. She complained of a dull ache, cracking noises and trismus. Mandibular opening was limited to approximately 8 mm between the incisors. She could open a little wider by shifting the mandible to the left. There was a moderate discrepancy between centric relation and centric occlusion with a shift to the left in final instant of closure. Upper right first and sec-ond bicuspids were in buccoversion.

Two severely impacted cystic lower third molars, removed in 1960, had necessitated two weeks' con-valescence at home. There was postoperative pain, particularly on the left side, and shortly afterwards cracking noises began in the right TMJ. When the pa-tient chewed on the left side, the right joint cracked. She had subsequently tried to chew on the right side. Limitation of movement, intermittent during the first few years following the operation, became constant during the past year. There was little pain at first, but lately the pain had increased.

October 19, 1966—Using a Hawley biteplate with high labial and finger springs, I began orthodontic treat-ment to correct the buccolingual relationship of the bi-cuspids. I knew that the posterior teeth would extrude, but thought that the Hawley appliance would permit a more normal TMJ function.

April 1967—Orthodontic treatment was completed on April 4 and occlusal correction was performed under general anaesthesia on the next day. This brought about a complete remission of the earlier symptoms. There was no further recurrence to 1968. She subse-quently left Montreal to be married.

Discussion

The terminal hinge position is the position of maxi-mum stability for the condyles in the glenoid fossae. Its importance is somewhat obscured by the geometry and mechanics of mandibular movements, and its ap-plication is restricted by the notion that a complex articulator is required to establish it. Yet the mandible

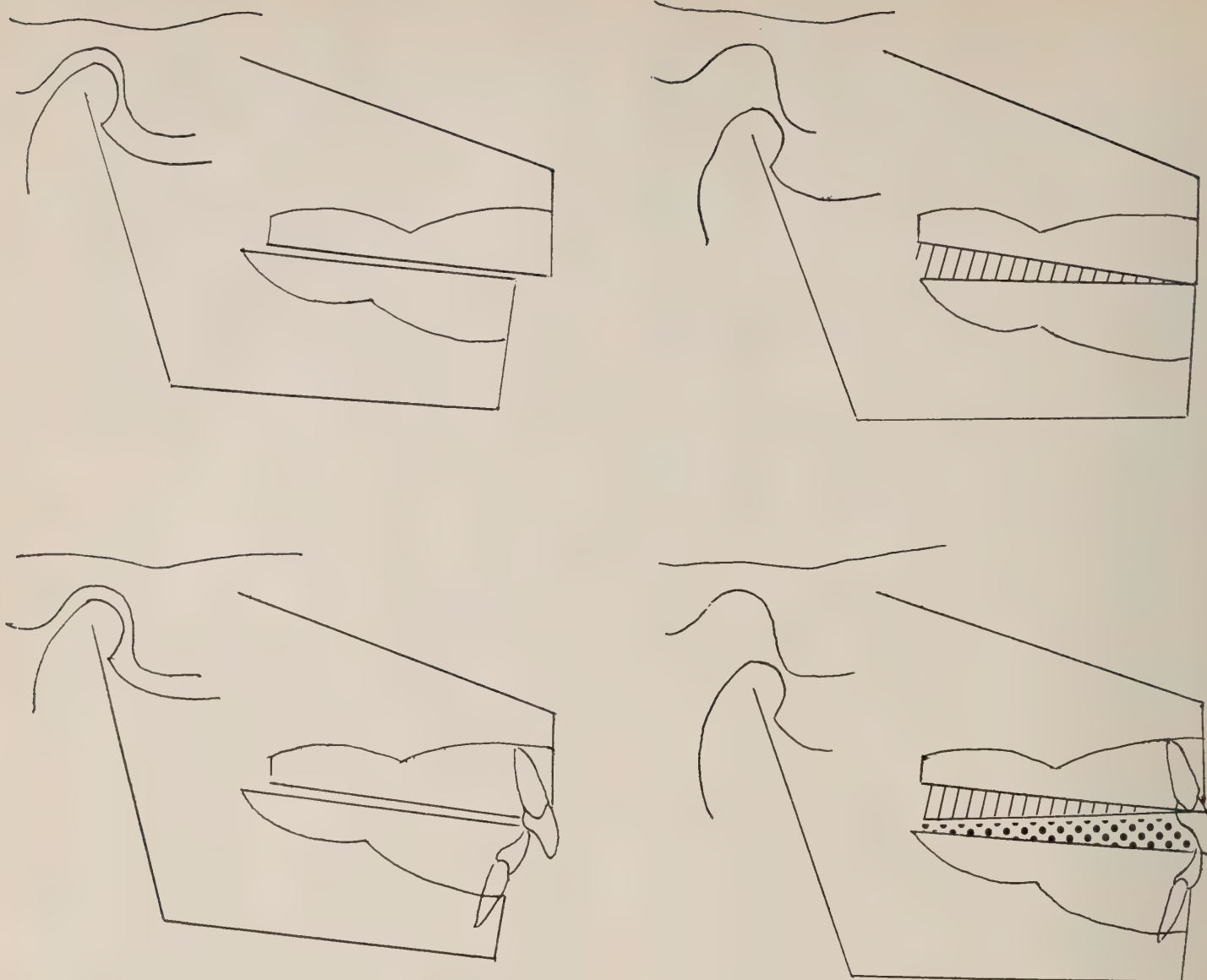


Fig 3 Diagrammatic representation of the perimeter of space. Top left, biterims meet when mandible is in terminal hinge position but open, top right, during protrusive movement. Adding anterior teeth with vertical overlap to the biterims, lower left, alters the perimeter of space by introducing anterior guidance whose influence is most pronounced in the bicuspid region and diminishes posteriorly in the arch (lower right).

appears to take this position naturally under general anaesthesia, as the foregoing cases clearly demonstrate. This strongly suggests that the glenoid fossae provide a physical bracing support at their apices. The condyles cannot be forced any higher; neither can they be appreciably moved antero-posteriorly except in combination with downward motion. Indeed, the terminal hinge position is more apt to be skeletally correct because the neuromuscular mechanism is eliminated under deep general anaesthesia (Fig 2).

How are the condyles maintained in this position after the elimination of muscle force? In my view, the relevant factors are (1) Vaughan's lateral pterygoid mechanism³ and (2) the presence of elastic fibres in the upper stratum of the bilaminar zone of the meniscus. The constant pull of the lateral pterygoid muscle is probably opposed and countered by the elastic recoil provided by this portion of the meniscus.⁴

With muscle force out of the picture, the mandible behaves on the basis of its skeletal design which in-

cludes joint form (bony contours), articular disc, and ligament and muscle length. That the condyles are in their terminal hinge position under general anaesthesia is confirmed by the relative ease of obtaining identical, consecutive and consistent arcs of closure. Were it not for a bracing condyle-fossa relationship, this would be impossible.

The lack of atmospheric pressure in the closed joint cavities⁵ and the cohesion between smooth joint surfaces in perfect contact through a thin intervening layer of synovial fluid (which adds the phenomenon of surface tension) provide further explanation for the tight joint behaviour under general anaesthesia. Lateral and protrusive translatory movements can be made with the patient's mandible despite some resistance. But the condyles tend to return to their terminal hinge seat in the fossae. Indeed, they do so with very little assistance.

Whereas the teeth obviously guide mandibular positioning in the waking state, the opposite seems true

under general anaesthesia. The joints then exert the greatest influence regardless of how the teeth contact.

The acute distress and personality changes experienced by patients suffering from TMJ dysfunction, of which the three cases reported are typical, justifies taking a strong stand in the area of mandibular function. Perhaps it would be simpler and more logical if the masticatory system were considered in terms of mandibular stability rather than mandibular centricity (centric relation). This view is supported by Jacobs⁶ who says that:

"Muscle tonus and the elasticity of the connective tissue within which muscles reside are components of the complex self-regulating proprioceptive system which maintains static posture against the force of gravity. These two factors, and the balancing of body parts on the osseous skeleton, constitute important non-neural elements of the proprioceptive mechanism. They provide partial neutralization of the force of gravity with a minimum expenditure of energy."

The neuromuscular system will try to establish and maintain an equilibrium of all the tissues involved in the masticatory organ regardless of what it has to work with. Conflict between the major components (joints and teeth) of this system may not manifest as injury except to the nervous system which would be unnecessarily taxed. Skeletal balance between the joints and the teeth (which can also be considered simple joints by virtue of their periodontal attachment) would represent skeletal stability which, rather than centricity, is what we truly seek. The existence of skeletal harmony precludes the necessity of neuromuscular adaptability.

Rest position

Recent reports demand a clarification of the so-called rest position of the mandible.

Jacobs⁶ states emphatically that there is no constant rest position for the mandible. I maintain that the condyles are in physiological rest anywhere in the glenoid fossae until they contact the functional area of the fossae with sufficient force to cause rotation, or movement, of the mandible.⁷

I also believe there is no specific rest position, but rather a phenomenon with as wide a range as the functional area of the glenoid fossae itself.

Electromyographic evidence⁸ suggests that the masticatory muscles have a resting range rather than a definite position. This position changes with each minute alteration in the postural position of the head. It is also influenced by occlusal interferences and by the psychic state of the individual. But it is not constant and cannot, therefore, be used to formulate concepts of occlusion.

The resting range is important because teeth should not impinge upon any part of it and because the mandible travels from this physiological rest area to its terminal or home position to execute the empty swallow. During sleep, it is from this rest area that the mandible travels toward its bracing position in the glenoid fossae. If cusps interfere with this movement there is a skirmish which can initiate bruxism. Physiological rest and functional position almost coincide in

what I consider ideal TMJ function; they only differ in the extent to which the articular disc can be compressed.

Swallowing

The physiological act of swallowing occurs once or twice per minute, 24 hours per day. During empty swallowing the posterior part of the tongue is carried back against the pharyngeal wall and the soft palate is lifted to close the nasal passage. This action helps to prevent the swallowing of air.⁹ The floor of the mouth should be lifted to facilitate proper salivary flow. In any form of swallowing the hyoid bone and the larynx must also be lifted by the suprahyoid muscles. This action helps to close the trachea. But if the mandible were not stabilized vertically, these muscles would pull it down. This actually happens in cases of tooth interference. The suprahyoid muscles in such patients are very well developed and feel, when palpated, as though they were in spasm.

During deglutition the mandible is stabilized against the maxillae by the contraction of masseter, internal pterygoid and temporalis muscles and by contact between the teeth. Lack of skeletal stability has one or both of the following effects: the tongue, by positioning itself abnormally, will help to provide this stability in the dental area; or the suprahyoid muscles, in a splinting action and in cooperation with the muscles of mastication, will attempt to provide vertical bracing for the joints. Both phenomena are abnormal. The first can cause a faulty swallowing pattern and a derangement of the teeth; the second can produce potentially pathological joint function; together, both may provoke early degeneration of the masticatory organ. In the correctly executed act of swallowing, skeletal stability is essential so that neuromuscular activity can concentrate on the act of deglutition.

It is logical that the teeth should guide mandibular function because their cusps are the instruments that penetrate the food during the act of mastication. Acting via the neuromuscular mechanism, they influence the condylar positioning in accordance with the degree of force required. But mastication occupies only some 1½ hours per day; the rest of the day should be marked by mandibular stability not requiring neuromuscular adaptation of the condyles or malpositioning of the tongue.

Perimeter of space

During protrusive movement the inclination of the condylar path causes a space in the molar region (Christensen's phenomenon).¹⁰ This can be demonstrated with maxillary and mandibular biterims. The rims meet when the mandible is in terminal hinge position; they open when the mandible moves forward. This space (termed the "perimeter of space" or the "spacio-temporal continuum"^{10, 11}) results from movement of the condyles against the inferior and medial walls of the glenoid fossae. The perimeter of space is altered by adding anterior teeth with vertical overlap to the biterims and moving the mandible forward again. These teeth introduce anterior guidance whose

influence is most pronounced in the bicuspid region and diminishes posteriorly in the arch (Fig 3).

The three dimensional perimeter of space changes constantly with every minute alteration in jaw position. It has two major controls: the temporomandibular joints which exert their greatest influence on the posterior teeth, and anterior guidance which exerts its greatest influence on the bicuspids. Within this three dimensional space, the posterior teeth should stop jaw closure yet move about in empty articulation. They should effect this movement without colliding with each other or interfering with the TMJ factors that produce the space.

Hypotheses

Complete or physiological TMJ function—For complete harmony, it is essential to have what I like to term complete or physiological TMJ function. This implies that the condyles rotate and translate simultaneously through all planes along the glenoid fossae and through the complete range of mandibular function. Physiological function should be limited only by ligaments, bony contours, menisci and natural muscle length. There should be no interference from the teeth, pernicious muscle and breathing habits, or anything else. Only when complete joint function exists can the perimeter of space be complete. And only with a complete perimeter of space is ideal joint function, without neuromuscular adaptation, possible.

Adaptability of the joints—Adaptability of the temporomandibular joints can either be normal or abnormal (potentially pathological). "Normal" adaptability is nothing more than complete joint function, with a "normal" physiological rest phenomenon. It is the ability of the neuromuscular mechanism to control the bracing positions of the condyles in the glenoid fossae, and to put one or the other in any position required by the act that is being performed. Adaptability is not a mystical biological phenomenon that enables us to do anything we wish to the teeth.

Discrepant centric relation and centric occlusion represent skeletal instability which taxes the neuromuscular system. I consider this abnormal, incomplete or unphysiological TMJ function. Occlusal discrepancies which the patient may tolerate today frequently exceed his physiological tolerance tomorrow.

Normal adaptability permits us to chew foods of varying size and consistency, requiring different degrees of force and, consequently, different condylar bracing positions in the fossae. Adaptability enables us to incise with incisors, tear tough foods with cuspids, and triturate with molars prior to deglutition. It allows us to speak, yawn, sing, laugh and perform any other functions in which the masticatory system participates. If a tooth hurts on one side, it can be avoided by condylar repositioning so that we can continue to eat. Condylar repositioning occurs also after jaw surgery, like the removal of two lower impacted wisdom teeth, so that undisturbed healing can take place.

In the event of insufficient joint function, the neuromuscular mechanism may seek its own adaptability by pulling the condyles out of the joints and, as the first two case reports, provoking a cycle of

spasm and joint pain which can have dramatic and very serious consequences.

Summary

Three cases of temporomandibular joint syndrome—two with acute symptoms and one with chronic symptoms—were successfully treated by occlusal correction under general anaesthesia. All three cases presented skeletal instability and severe discrepancy between centric relation and centric occlusion. Symptoms in the two patients with acute manifestations became progressively worse and were characterized by constant pain, inability to exert force in a vertical direction, tenderness to palpation and inability to masticate. The third patient suffered pain which was dull though not constant except when she tried to open her mouth widely. This patient was unable to open more than 8 mm for a period of one year.

In all three cases symptoms subsided after the teeth were reshaped so that the temporomandibular joints could function without tooth interference.

Conclusions

The results obtained in these cases suggest that occlusal correction under general anaesthesia should at least be attempted before radical joint surgery is considered.

The importance of hinge dominance and stability in mandibular physiology is confirmed. This simple concept need not and should not be obscured by complex instruments.

Skeletal or mandibular stability should be the basic consideration in mandibular physiology, replacing the ambiguous and controversial concept of centric relation. It is more definite, more meaningful and less misleading than the centric concept and, best of all, can only have one definition.

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Book Reviews

Dental Specialties for the Dental Hygienist

Pauline F. Steele. Philadelphia, Lea & Febiger, 1969. (Available from The Macmillan Company of Canada Ltd, Toronto) 337 p. Illus. \$12.50 cloth

The purpose of this book is "to provide a synopsis of the different specialized areas comprising dentistry" in addition to "establishing a proper perspective of dental hygiene in its relationships to the subdivisions of dentistry." It gives dental hygiene students and graduates a conception and appreciation of dental specialties, enabling them to become competent members of the dental team even though they may not perform the actual services.

Each chapter is written by a renowned specialist in a particular field who is also acquainted with the duties of a dental hygienist. The topics include anaesthesia, endodontics, operative dentistry, oral diagnosis, oral surgery, orthodontics, paedodontics, periodontics, prosthodontics and dental research.

The chapter on anaesthesia contains a brief review of the anatomy and physiology of respiration with particular reference to prevention and treatment of complications arising from general and regional anaesthesia. Although the dental hygienist does not administer drugs, she should have a good knowledge of these agents and their possible after-effects so that she may aid in an emergency.

The section on orthodontics depicts the classification and aetiology of malocclusion. There are also excellent illustrations of interceptive and corrective therapy. Of particular importance to the hygienist is the care of the teeth as she instructs the patient in maintaining oral hygiene.

Another section of note deals with periodontics. This gives an excellent account on the various kinds of therapy along with classifications of gingival and periodontal diseases. The hygienist must be conversant with periodontal treatment since it is she who prepares the patient for therapy, aids the patient during therapy and cares for the patient after therapy.

Overall, *Dental Specialties for the*

Dental Hygienist is easy to read, informative and well organized.

Carmen Michin

Modern Practice in Removable Partial Prosthodontics

R. W. Dykema, D. M. Cunningham and J. F. Johnston. Toronto, W. B. Saunders Company, 1969. 417 p. Illus. \$19.45

Here is another good book for those who are interested in this aspect of clinical dentistry. It is, in fact, the second such contribution in the past year's list of publications. No review of a few words can do the book justice. Readers must go through the text to appreciate its value—the reading then becomes proof of worth. I must, however, point out one or two special highlights.

The two page introduction in itself has unusual strength; this becomes clear in the dynamic leading statement of the first paragraph, where the authors unequivocally align their work with principle, thereby setting the tone of the whole book. Later in the introduction they delineate their preferences and point out common practice foibles.

"Modern Practice in Removable Partial Prosthodontics."

Moving on, they strengthen their approach to treatment in this much maligned discipline, substantiating it by references to the body of the text—all in all a remarkable introduction.

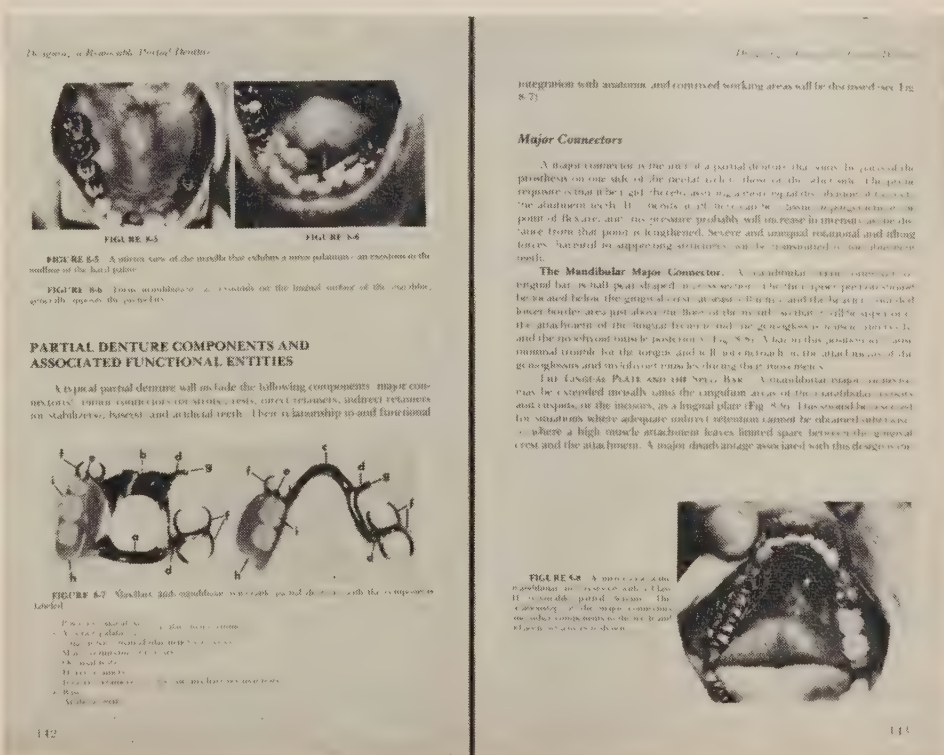
Of the 21 chapters of the book, readable and sound as they are, two call for special mention. The first, chapter 14, tells the almost untold story of the trial of the framework appointment; what one needs to know and watch for thus comes to life at the very chair-side. The second, chapter 19, is a philosophical and practical discourse on failures with removable prosthodontic treatment and how to avoid them.

H. W. Hart

Swenson's Complete Dentures

C. O. Boucher, ed. Ed 6. St. Louis, The C. V. Mosby Company, 1970. 650 p. Illus. \$19.25

The sixth edition of this standard prosthodontic text reflects certain changes in ideology which have occurred since 1964. Doctor Boucher has rewritten and expanded many sections of the book and has added several new chapters as well. For example, the chapter on ar-





"Swenson's Complete Dentures."

ticulars now includes a comparative checklist of the various components of the instruments currently available. This classification of articulator features permits a selection based on the dentist's individual concept of occlusion and describes the more versatile instruments which are programmed by means of graphic records. A new paragraph further defines centric relation and, while reference to Schuyler's work is retained, the earlier approach to occlusal analysis by S. W. Brown has been deleted. The chapter on anatomy and physiology by L. S. Block now provides information concerning the diagnosis and prosthodontic treatment of temporomandibular joint disturbances as well as myofascial pain arising from occlusal disharmonies. A contribution by M. L. Allison and W. R. Wallace on surgical preparation for complete dentures describes some 15 oral situations which may be improved by correction prior to denture construction. This constitutes an important addition to the book.

It is apparent from the many other changes and additions throughout this edition that the author has admirably achieved his goal of retaining sound fundamentals and supplementing them with new information and applications. The improved layout permits the inclusion of approximately 200 new illustrations without increasing the size of the book or impairing its continuity. These improvements, in conjunction with an expanded bibliography, should gain the book ready acceptance by students of prosthodontics at any level of experience.

E. P. Downton

Drugs in Dentistry

L. W. Kay. Bristol, John Wright & Sons Ltd, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 208 p. Illus. \$5.25

The aim of this monograph is clearly defined in the introduction: "It is not only the senior members of the profession who are concerned about the problems of drug selection, for many younger practitioners and the newly graduated also admit to a lack of confidence and practical knowledge when faced with this responsibility. Such a situation obviously implies the need for a concise introductory and refresher manual on the subject of drug evaluation and therapy, with this particular aim in view."

Drugs in Dentistry is not a textbook of pharmacology and in no way attempts to compete. It is essentially a monograph of clinically applied therapeutics designed for practical office use. Its content is brief but each topic is thoroughly discussed. The subject matter covers drug prescribing and administration; antibiotics and sulphonamides; drugs used in treating ulcerations of the oral mucosa; hypnotics, sedatives, tranquillizers and premedication; drugs for relieving pain; drugs used to arrest bleeding; sterilization, disinfection and the antiseptics; anaesthetics (general and local); miscellaneous remedies and useful prescriptions and formulas; general and local medication problems, emergency therapy and antidotes; and prescribing for children and for the aged.

The terminology, being that of the

British Pharmacopoeia, causes occasional confusion. Thus meperidine or Demerol becomes pethidine, and dextropropoxyphene becomes Daloxene instead of Darvon. But readers will quickly master these minor impediments.

The section on antibiotics and sulphonamides is up-to-date and quite exhaustive. Such topics as causes of failure of antibacterial treatment, choice of antibiotics, antifungal antibiotics and antibiotic combinations are dealt with fully. There is also a good section on general prophylaxis with reference to valvular heart disease.

The equally competent section on local anaesthetics describes modern agents like lidocaine, prilocaine and mepivacaine. The author explains basic chemical groupings such as esters and anilides. He also lists many uses for local anaesthetic agents, as in diagnosis, haemorrhage and gagging. In the same section is a complete discussion of vasoconstrictors and their use in cardiac patients.

The section entitled "Remedies, Prescriptions and Formulas" deals with a variety of common diseases and discusses possible treatment with recommended prescriptions. Included among these are thrush lip disorders, antibiotic stomatitis, periodontal disease and disorders of salivation.

Though only a small book, it is rich in information and can be referred to quickly in a dental office. Those that might want a fresh look at current therapeutics will find it very valuable.

L. E. Francis

Oral Diagnosis

D. A. Kerr, M. Ash, Jr. and H. D. Millard. Ed 3. St. Louis, The C. V. Mosby Company, 1970. 388 p. Illus. \$16.25

All three authors of this book are staff members of the School of Dentistry, University of Michigan. Doctor Kerr is head of oral pathology, Doctor Ash is chairman of the Department of Occlusion, and Doctor Millard is chairman of the Department of Oral Diagnosis. Their collaboration in writing this book is the outcome of recognition of the importance and need for a text on oral diagnosis. The book's underlying theme is to present the principles of oral diagnosis in a disciplined fashion. The details of specific disease entities have been purposefully omitted to emphasize rational methodology.

The text is directed to an audience of undergraduate students, but there is also much useful information for the general practitioner. The reader is taken through the procedure of assembling a case history during which the principles

of examination of the regional tissues are presented. The relationship of the general state of body health is integrated with the oral chief complaint. Each chapter is accompanied by a modest list of references which may at times be too modest. A case in point is the omission of H. M. Worth from the references in the chapter on radiographic examination.

The text as a whole is well planned and germane to its stated objectives, but the content must be weighed in terms of the book's extent.

This third edition has a few new illustrations and some minor additions to the text. Its chief feature is that it is now set up in the modern double column format for easier reading. The illustrations are all of good quality and support the text as expected. There is a wealth of procedural information contained in this modest-sized book from which many can profit.

"Oral Diagnosis."

Annotations

Need for dental care among adults. US 1960-62

US Department of Health, Education and Welfare. National Centre for Health Statistics. *Vital and Health Statistics. PHS Publication No 1000, Series 11, No 36. Washington, 1970. 22 p. 35 cents*

This report deals with the proportions of persons in need of immediate dental care as determined by examinations conducted on a probability sample of the US adult population aged 18-79 years. The need for dental care is related to certain demographic and socio-economic variables—race, sex, education, income, marital status and geographic region.

Of the approximately 111 million men and women in the civilian, non-institutional US population 18-79 years of age, an estimated 91 million had one or more natural teeth, with an average of 18 decayed, missing and filled (DMF) teeth. About half of these persons had gingivitis and approximately one-third had destructive disease of the periodontal structures.

The need for immediate dental care was related more to race than to any other demographic variable. Relatively more Negro men and women (61.5 per cent) needed immediate dental care than did white men and women (37.6 per cent). Income and education were also related to the need for immediate care. Persons who were economically and educationally more disadvantaged had higher proportions needing immediate care. Differences in the propor-

tions of people needing early care also varied significantly by marital status, usual activity and occupation.

Fluorides and Human Health

Geneva, World Health Organization (Monograph Series No 59), 1970. Available from The Queen's Printer, Ottawa. 364 p. \$10.00

This is a review of the scientific literature on the varied health aspects of fluoride and the many complex questions relating to the metabolism of fluorides and their utilization in medicine and public health. It was compiled by 29 experts on interrelationships between fluorides and human health with Professor Y. Ericsson acting as special consultant and scientific editor.

The contributors first considered the sources of the fluorine ingested or inhaled through water, foods, drugs, dust and vapours. The absorption of fluorides, their distribution in various body tissues and fluids, and the excretion of excess fluorides are discussed at length. A review of the physiological effects of small doses of fluoride is followed by an account of the toxic effects of larger doses. A chapter on fluorides and general health presents the results of studies in many parts of the world. The effects of fluoride ingestion on various aspects of dental health—caries, the shape and size of the teeth, orthodontic anomalies, and periodontal health—are considered in the final chapter.

This work is not intended as a practical guide but rather as an impartial

review of the scientific literature, which should be of great value to all those called upon to advise on the merits and demerits of the use of fluorides as a public health measure.

Emergency Dental Treatment

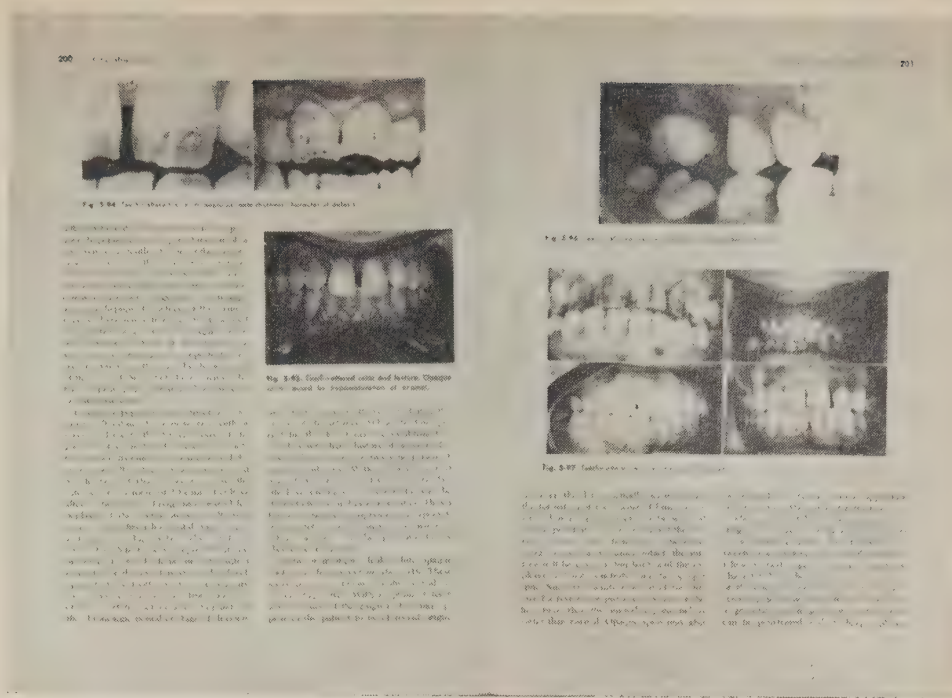
H. S. M. Crabb. Bristol, John Wright & Sons Ltd, 1969. (Available from The Macmillan Company of Canada Limited, Toronto) 21 p. Illus. \$1.25

This booklet is taken from the 19th edition of *Pye's Surgical Handicraft*, with the addition of a note on manipulation of temporary dressings and a list of appropriate instruments and drugs for emergency dental treatment. The text is primarily intended for physicians and medical students who may be in situations where they are called upon to undertake emergency dental treatment.

Legal Aspects of Dentistry

S. L. Miller. New York, G. P. Putnam's Sons, 1970. (Available from The Macmillan Company of Canada Limited, Toronto) 428 p. \$9.25

This book is a programmed course for self-instruction in dental jurisprudence. It is concerned with the legal problems that may arise when a dentist, in providing care, does something that inter-



feres with the rights and privileges of a patient. The material is based upon principles derived from legal decisions from all 50 states of the American union.

While American and Canadian principles of jurisprudence share some similarity, their application in a given set of circumstances will vary from case to case. No two jurisdictions, no two judges, no two juries, and no two cases are exactly alike. Yet there is enough similarity in some cases that a decision in one may become a legally binding precedent for deciding another.

Analyse de livres

Odonto-stomatologie médico-légale

Gösta Gustafson. Bruxelles, S.C. Edition & Imprimerie, 1969. 253 p. Illustré.

L'odontologie médico-légale a pris beaucoup d'importance depuis la dernière guerre, à cause de la multiplication des agglomérations où l'anonymat s'établit forcément au cours de cataclysmes, tels que tremblements de terre ou raz de marée et à cause de la multiplication des voyages de groupes par avion.

Cette science prend de plus en plus d'importance dans divers pays, plus particulièrement dans les pays scandinaves où elle est reconnue par les autorités judiciaires et où elle fait partie des curricula des écoles dentaires.

Le volume du docteur Gustafson se lit facilement: il est à la portée de toute personne non familière avec l'identification des cadavres ou des marques qui peuvent s'y trouver donnant des renseignements sur les circonstances d'une mort survenue à la suite de violence.

Il est simple, clair et concis et il contient de nombreuses illustrations qui aident à saisir facilement le sens du texte. Ce livre satisfait aussi les initiés à cette science par la liste très longue de références qu'il fournit. En effet, l'auteur cite tous les volumes et tous les articles de journaux scientifiques qui ont traité de cette question jusqu'à nos jours. Il contient les notions fondamentales d'anatomie, de pathologie et d'anthropologie nécessaires à la compréhension des données de l'odontostomatologie légale. Les titres des chapitres indiquent qu'il s'agit d'une publication qui couvre l'essentiel du sujet sans longueurs ou considérations non directement en rapport avec le but qu'il poursuit: principes généraux d'identification, techniques d'identification non dentaires, l'odontostomatologiste en qualité de témoin, conduite à tenir après les sinistres, anatomie et pathologie considérées au point de vue médico-légal, résistance des dents et des re-

staurations dentaires, identification comparative, identification reconstructive, etc.

La seule restriction qu'on puisse faire au sujet de ce volume est d'ordre mineur: nous aurions aimé y voir une table des matières et constater moins d'erreurs typographiques.

Gérard de Montigny

Dictionnaire odonto-stomatologique

Pierre Budin. Cheverny (Loir-et-Cher), France, Société de Diffusion de Publications Scientifiques, 1970. 339 p.

Ce dictionnaire, dédié à la mémoire du Dr L. Solas, ancien directeur de l'Ecole Dentaire de Paris, qui fut le promoteur d'une nomenclature odonto-stomatologique, vient de paraître aux Editions PSFM à Genève (distribuées en France par la Société de Diffusion de Publications Scientifiques, 41 Cheverny).

La nécessité des dictionnaires spécialisés n'est actuellement plus mise en doute. Toutes les sciences, toutes les techniques professionnelles et même commerciales ont leur lexique qui permet de trouver rapidement la définition et le terme exact que l'on veut utiliser ou que l'on rencontre dans un texte.

Le *Dictionnaire odonto-stomatologique* comprend plus de quatre mille termes dont un grand nombre concerne les diverses spécialités, odontologie, stomatologie, orthopédie dento-faciale, parodontologie, et maxillo-faciale.

Nous y trouvons également un certain nombre de termes qui touchent à la physiologie et la biologie, à la pharmacologie et aux diverses sciences fondamentales qui intéressent les dentistes.

Il y est inclus la définition d'un certain nombre de maladies, les unes locales, intéressant directement le spécialiste, les autres plus générales mais ayant un rapport avec la cavité buccale et ses annexes.

Cet ouvrage, collationné et rédigé par Pierre Budin, doit rendre les plus grands services aux étudiants, mais aussi au praticien et à tous ceux qui lisent et écrivent.

Additions to the Library

ADVANCES IN ORAL BIOLOGY. Edited by Peter H. Staple. Vol 4. New York, Academic Press, 1970. 396 p. Illus. \$19.50

DENTAL CLINICS OF NORTH AMERICA, Vol 14, No 2, July 1970. Symposium on prosthodontics. Philadelphia, Saunders, 1970. Pages 439-648. Illus.

ELLIS, R. G. and DAVEY, K. W. The classification and treatment of injuries to the teeth of children. Ed 5. Chicago, Year Book Medical Publishers, Inc, 1970. 231 p. Illus. \$8.75

EUROPEAN ORTHODONTIC SOCIETY. Report of the 45th congress held in Edinburgh July 7-11, 1969. 497 p. Illus. \$9.60

GORLIN, R. J. and GOLDMAN, H. M. Thoma's oral pathology. Ed 6. 2 Vols. St. Louis, Mosby, 1970. 1139 p. Illus. \$65.45

GUSTAFSON, G. Odonto-stomatologie médico-légale. Traduction et adaptation française de H. Brabant et de R. M. De Smet. Bruxelles, S. C. Edition & Imprimerie, 1969. 250 p. Illus.

KENNEDY, A. C. Essentials of medicine for dental students. Ed 2. Edinburgh, Livingstone, 1970. 284 p. Illus. \$7.50

MANSON, J. D. Periodontics for the dental practitioner. Ed 2. London, Henry Kimpton, 1970. 254 p. Illus. \$10.80

MARYLAND UNIVERSITY. Proceedings of the Second Conference on the Teaching of Preventive Dentistry and Community Health, October 6-9, 1968. Edited by Burton R. Pollack and Dorothy E. E. Gallant. Bethesda, US Dept of HEW. PHS National Institutes of Health, Division of Dental Health, 1970. 142 p. Mimeo

ROTHSTEIN, R. J. The dental health team. Toronto, Lippincott, 1970. 266 p. \$11.00

SAMSON, E. The management of dental practice. London, Henry Kimpton, 1969. 340 p. \$8.40

TOTH, K. The epidemiology of dental caries in Hungary. Budapest, Akademiai Kiado, 1970. 282 p. \$10.00

TYLMAN, S. D. Theory and practice of crown and fixed partial prosthodontics (bridge). Ed 6. St. Louis, Mosby, 1970. 1023 p. Illus. \$26.15

WAHL, N. Oral signs and symptoms; a diagnostic handbook. A guide to the identification of lesions of the mouth. Springfield, Thomas, 1970

WALTON, J. G. and THOMPSON, J. W. Pharmacology for the dental practitioner. London, The British Dental Association, 1969-1970. 103 p

WEINBERG, L. A. Atlas of removable partial denture prosthodontics. St. Louis, Mosby, 1969. 255 p. Illus. \$32.45

Progress with anticariogenic adhesives

The successful use of adhesives for protecting highly susceptible pits and fissures in posterior teeth against caries marks an important advance in preventive dentistry.

The method, developed initially in 1967, uses an adhesive sealant to shield the susceptible tooth surfaces from exposure to the oral environment. In the initial demonstrations^{1, 2} healthy bicuspid and permanent and primary molars were coated with a plastic sealant obtained by mixing the liquid monomer, methyl 2-cyanoacrylate, with a powdered filler. After one year the treated teeth had about 85 per cent less caries than untreated, matched contralateral teeth. Moreover, there was no sign of progression of decay in the few instances where early enamel caries had been covered by the adhesives.

But the early material had certain shortcomings that necessitated a six month recall examination and replacement of the coating because of dislodgement. Further study led to an improved material which is easier to use and more adherent, so that treatment need only be done once a year. Its major ingredients are bisphenol A, glycidyl methacrylate and methyl methacrylate monomer. Just before use, a small amount of benzoin methyl ether is dissolved in the adhesive liquid to form an ultraviolet light-sensitive composition that is painted on the tooth surface and hardened under ultraviolet light to a glass-like consistency.

In a recent trial 200 occlusal pits and fissures of healthy teeth in 60 children were coated with this adhesive. One application protected the surfaces for one year; in contrast, decay formed on 84 of 200 untreated areas in matched contralateral teeth. The material proved equally effective on primary and permanent teeth.³

The procedure is best carried out on newly erupted teeth. They are thoroughly cleaned of debris. Each tooth is then air dried, isolated with cotton rolls, and

conditioned for bonding with a phosphoric acid solution containing zinc oxide. After one minute the teeth are washed with water, isolated and re-dried. The adhesive is carefully applied in a thin layer to all pits, crevices and fissures and then hardened by exposure to the rays of long-wave ultraviolet light.

The source of the ultraviolet light is a gun-shaped lamp with an attached polished stainless steel intra-oral reflector extending from it. This mirror is held close to a tooth being treated so that the ultraviolet rays are reflected onto the coated surface. Here they activate the benzoin methyl ether that solidifies the resin immediately. After hardening, which takes but a few seconds, the surface is wiped with a cotton roll to remove all traces of unpolymerized adhesive.

The simplicity and rapidity of this painless technique lends it to use by the dental hygienist after prophylaxis. As a substitute for prophylactic odontotomy the procedure requires less time than that needed for preparation of a cavity and insertion of a Class I amalgam filling, particularly if there are multiple fine crevices on the occlusal surface. And present indications are that replacement of the adhesive annually is adequate.

Given such facility and excellent aesthetic qualities, coupled with an apparently highly significant protective effect, the advantages of this simple preventive measure are self-evident.

- 1 Cueto, E. I. and Buonocore, M. G. Sealing of pits and fissures with an adhesive resin: its use in caries prevention. *J Amer Dent Ass* 75:121, 1967.
- 2 Ripa, L. W. and Cole, W. W. Occlusal sealing and caries prevention: results 12 months after a single application of adhesive resin. *J Dent Res* 49:171, 1970.
- 3 Buonocore, M. G. Adhesive sealing of pits and fissures for caries prevention, with use of ultraviolet light. *J Amer Dent Ass* 80:324, 1970.

\$55 pour le Journal?

Bien des dentistes se demandent ce qu'ils retirent de leur contribution à l'Association Dentaire Canadienne. Jusqu'en 1970 le Québec, par exemple, ne contribuait que \$45 par dentiste. L'année prochaine l'octroi du Collège passera à \$55.

\$55 pour le Journal? Est-ce là vraiment le seul avantage qu'obtient le dentiste? Bien sûr que non, mais il est à déplorer que l'ADC, jusqu'à maintenant, a fait très peu d'efforts pour renseigner ses membres des avantages quotidiens dont ils bénéficient, souvent sans s'en apercevoir.

"Une chose dont on ne parle pas n'a jamais existé. C'est l'expression seule qui donne la réalité aux choses" (Oscar Wilde).

Il est certain qu'aucun dentiste, le jour où il a reçu la licence de pratiquer sa profession se rend compte du fait que l'ADC a eu un grand rôle à jouer dans l'obtention de cette licence.

Et pourtant, si l'université dont il a été promu n'avait pas été accréditée par l'entremise de l'ADC la qualité de l'enseignement n'aurait pas été reconnue et son diplôme ne pourrait pas être accepté à travers tout le Canada et les Etats-Unis.

Pas la peine de passer quatre années à l'université s'il n'y a pas de professeurs pour enseigner. Ici encore le Fonds canadien pour l'enseignement dentaire aide la faculté à former ses enseignants.

Une fois sorti de l'université, l'ADC procure une protection financière au nouveau dentiste sous la forme d'assurances sur la vie, contre la maladie et les accidents, pour les dépenses de bureau et pour garantir le revenu, à des primes qui sont beaucoup plus avantageuses que sur le marché libre. En plus, l'ADC pense aux praticiens plus âgés et après plusieurs années de démarches à Ottawa a obtenu la

permission de participer à un régime d'épargne-retraite régi par l'association nationale canadienne. L'ADC fait maintenant des pressions auprès du gouvernement fédéral afin de permettre qu'une plus grande partie des contributions au régime d'épargne-retraite soit protégée de l'impôt. L'ADC pense aussi à l'étudiant dentaire qui peut participer à un programme d'assurance-vie à un prix extrêmement modique. Pourquoi ne pas vérifier vos polices d'assurance et comparer leur valeur avec celles offertes par l'ADC? Vous serez agréablement surpris.

L'Association Dentaire Canadienne parle au nom des dentistes canadiens à Ottawa. Récemment, l'ADC a obtenu des déductions d'impôts pour les frais d'étude et une exemption de la taxe fédérale sur les pâtes à empreinte. L'ADC a fait récemment des représentations sur le livre blanc de M. Benson.

Grâce aux efforts de l'Association, le Collège royal des dentistes du Canada a été établi, un effort gigantesque qui a pris plus de cinq années de travail. Il assure que les spécialistes qui deviennent membres du Collège après deux séries d'examen sont capables de satisfaire ou de dépasser les exigences des bureaux provinciaux.

L'ADC encourage aussi la recherche dentaire au Canada et organise des conférences où les chercheurs canadiens peuvent se rencontrer et présenter leurs projets. Le praticien en profite, probablement sans le savoir, parce qu'il incorpore ces nouveaux développements dans l'exercice quotidien de sa pratique.

Le mois prochain, nous aurons l'occasion de discuter d'autres projets où l'ADC utilise votre argent pour le plus grand bien commun de tous les dentistes canadiens et du public qu'ils servent.



W. G. McIntosh, DDS

Ideas and practices from around the world can be of much benefit to Canadian dentistry which is trying to meet the challenge of best serving the nation's dental needs.

And we should not blind ourselves to those practices and philosophies that are prevalent in countries whose political systems differ radically from our own. For example, recently I have learned that communist Rumania has developed certain progressive concepts of dentistry that we are still talking about in Canada.

Although the concept such as continuing education may be progressive, most Canadians would strongly oppose the methods that carry these ideas out, but we should learn more about them.

While attending the 58th annual session of the Fédération Dentaire Internationale in Bucharest on behalf of CDA, I learned the basic structure of dental education and practice in Rumania. My short stay prevented me from assessing the quality of dental services.

My sources of information were: a paper delivered by Doctor Carol Stieber of Bucharest's Facultatea de Stomatologie, from organized tours of the university, a postgraduate institute, a polyclinic, and a school dental clinic.

Dentistry—or stomatology, as it is called in Rumania—is definitely treated as a branch of medicine. The first three years of the university's six year undergraduate medical program is common to all branches, during which the basic sciences are emphasized.

The last three years are separated into the various branches. A graduate in stomatology receives a doctorate degree.

The Rumanians say that applicants to the country's five dental institutes are selected mainly on the basis of academic achievement and that there are about eight eligible applicants for every one accepted.

Costs of university education are paid by the state.

Also, scholarships are awarded for living allowances. Some 600 dentists graduate each year in the country of 20 million. Of the 3,000 dentists, 40 per cent are women. In the cities, there is one dentist to about 2,500 persons, while in the rural areas, the ratio is one to 14,000.

During their sixth undergraduate year, students are sent to polyclinics throughout the country where they treat patients under direction of a graduate dentist. The Rumanians say this method extends the clinical experience of the student while providing needed services to the public. The better the student, the more choice he has of the polyclinics, they add.

On graduation, the dentist is again assigned to a polyclinic or hospital to work under the general supervision of a more senior professional who may be a specialist. Again, his academic standing gives him a wider choice of clinics. He is paid 1,500 lie a month, equivalent to about \$83.

Every two to four years, each dentist is required to return to Bucharest's postgraduate institute for three to six month refresher courses. Aside from being Rumania's answer to continuing professional education, the system allows the dentist to raise his status and income.

After serving five years in a clinic or hospital, the dentist can try specialist examinations. If successful, he can enter specialty programs ranging from two to five years.

Dental services are provided in stomatologic clinics set up in polyclinics, hospitals, factories and schools. All so-called prophylactic services are free, while prosthetic services are offered according to the patient's ability to pay for materials used.

During my visit to one of the junior grade schools in Bucharest, which has its own dental clinic, I saw evidence of the emphasis placed on both preventive and treatment care. Space maintainers, orthodontic appliances and amalgam restorations were proudly displayed by a class of six year old children.

There is no private practice as we know it, but a related practice is developing gradually.

A patient does not have his choice of dentist normally. He is simply assigned to an operator. But after normal work hours, some dentists can use the clinic's facilities for a small rental charge to treat private patients on a fee-for-service basis. About 20 per cent of dental services appear to be provided on this private basis.

Dental technicians receive two years of training in their own school and after graduating work in polyclinics or in large laboratories that serve numerous dental clinics.

I could not get too much information on dental hygienists, who take a one year course and concentrate on preventive procedures. There are only a few practising, but their number is soon to be greatly enlarged, I was told.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association Dentaire Canadienne. Vous êtes invités à participer à cette section du Journal.

Accurate thiokol impressions

The article by Doctor Ferguson and Mr. Strode in the September Journal serves to remind us that rubber base impressions release bubbles of gas when the materials are mixed. At one time it was recommended that the thiokol impression remain on the laboratory bench, in some cases for several hours, to allow the escape of much of the entrapped gas before pouring a die. While this permits some of the bubbles to dissipate, it also paves the way for distortion of the impression which is apt to increase the longer one delays pouring the die. As Doctor Ferguson and Mr. Strode point out, this hazard can be relieved by careful spatulation and the use of a vented tray to eradicate the compression of any gaseous bubbles.

Minor pits in the die from residual bubbles should be filled in prior to the wax-up, provided they are not adjacent to any margins, retention grooves or pin holes.

It is interesting that of all the 250 impressions selected at random, 6 per cent or roughly 15 impressions had demonstrable inaccuracy because of such bubble formation.

W. D. Cavanagh, DDS
123 Edward St
Toronto 2, Ont

CDA information for students

The knowledge of the average dental student concerning the CDA is not as bleak as Mr. Dorion depicts in his letter in the September issue of the Journal. Comparisons on a national level show that McGill University's dental school has proportionately one of the largest student memberships in the CDA.

I feel that the ruling concerning representation to the Canadian Dental Students' Conference should be maintained because the members of the executive of a dental students' society are perhaps more informed and better qualified to represent their schools.

It is true that the CDA student representative is appointed rather than elected. This decision is not made unilaterally but rather in consultation with elected student representatives from all years in our school. It thus becomes, indirectly, an elected position.

Proceedings of the student conference held last year were published in the summer issue of *The McGill Dental Review*. Each issue of this publication is distributed to our students free of charge. In this way we hope to make our students more aware of the role the CDA performs.

Mr. Dorion's suggestion that the CDA governors become more active on the student front is most interesting. This suggestion, as well as his other criticisms, were discussed at the second Canadian Dental Students' Conference in October.

Albert Frydman
Representative
First Canadian Dental Students'
Conference
McGill University, Montreal

CFDE and the press

I read the report, "CFDE Meets the Press," in the September issue of the Journal with very mixed feelings. Let me make it quite clear that I enthusiastically support the goals and activities of the Fund and warmly commend those who generously gave of their time to meet with the press. I know from personal experience how such interviews may be misquoted. Nevertheless, the report leaves some impressions and innuendos which are most unfortunate.

First,—"He pointed to some highly preventive practices in the US where there is a tremendous amount of motivation and the acceptance is very high and the efficiency is very high." Does the press now believe that no practice in Canada is highly preventive, that in no community in Canada is there a tremendous amount of motivation being generated by public health dental officers, and that very high acceptance and efficiency are sole prerogatives of

the United States? I sincerely trust this was not the impression left with the press. (J Canad Dent Ass 34:201, 1968; 35:316, 1969; 36:192, 1970.)

Secondly,—"Then there is research needed into the reasons people take up harmful habits such as some drugs which can weaken teeth." Not only is this regrettably unscientific parlance but I strongly suspect it is totally unsupported by any reliable report in the scientific literature.

Thirdly, I entirely agree that we need more motivational research, but let us remember that such research has been and is being carried out in Canada (J Canad Dent Ass 32:417, 1966; 35:407, 1969; 36:32, 1970). Furthermore, in British Columbia, it is the dental public health officer who approaches the psychologist when setting up a motivational research project.

Lastly, there was no reference at all to a most important topic—the training and utilization of auxiliary personnel—in spite of what has and is being done in Canada (J Canad Dent Ass 28:627, 1962; 29:778, 1963; 33:184, 1967).

More support for CFDE — agreed. More field research — agreed. Better motivation — agreed. That Canadian dentists and dental public health officers contribute less to prevention and motivation than those in any other country — I do not agree.

Frank McCombie, LDS RCS, DDPH
Director
Division of Preventive Dentistry
BC Health Branch
Parliament Buildings
Victoria, BC

Radiation protection

I congratulate Mr. Wetherill on his article about Alberta's x-ray protection program in the October Journal. The results of his detailed analysis of conditions and usage of radiation in 75 dental offices are startling.

A 1963 Michigan survey of some 3,200 x-ray machines revealed that even after an extensive educational program only 35 per cent were satisfactory. In a smaller survey in the Ottawa region in 1966, it was also shown that only one-third of the x-ray machines were satisfactory. Mr. Wetherill's findings coincide with the previous surveys and suggest that conditions have apparently not improved in the last five years. This is alarming!

Of interest is the fact that 34 of the machines were less than five years old and only 35 machines met the required standards. Surely some of the older machines were properly filtered, collimated, grounded and had a suitable timer on a long timer cord. Does this mean that some of the newer machines are deficient or improperly installed?

Mr. Wetherill's finding that almost 75 per cent of the offices had no light-

tight darkrooms and almost 60 per cent had no thermometer, to allow for proper time-temperature development, is even more frightening. A thermometer, costing less than a dollar, is extremely useful for bringing out full detail in radiographs. Wainwright records in his textbook *Dental Radiography* that the vast majority of American dentists overexpose the patient and underdevelop the radiographs. This is wasteful in two ways: the patients are subjected to an unnecessary hazard, and full information is unobtainable from underdeveloped radiographs.

The revelation that dentists in at least two offices held the film in the patient's mouth and that one of them had suffered radiation damage to the fingers of one hand is appalling.

The real significance of this survey, when viewed with the two earlier surveys in Michigan and Ottawa, shows that over a five year period, with many more new machines being purchased, there has been no substantial improvement in the use of radiation. Or are we simply careless because other dentists do not see our radiographic work?

Older machines can readily be brought up to the required standard with very little effort. The methods of checking equipment and exposure and processing techniques were described in my article published in the September 1967 CDA Journal; also a series of articles in the *Journal of the American Dental Association* in April and November 1967, and January, February and March 1968.

If our profession fails to show proper responsibility over radiation hazards, we will only have ourselves to blame for ensuing public distrust. If self-regulation proves inadequate, our patients and the public will demand regulation by governments.

J.A. Reid, DDS
115 Windsor Crescent
London 17, Ont

Drug abuse

Perhaps we, in the profession, unwittingly contribute to the growing prevalence of drug addiction.

Some 25 years ago the administration of tranquilizers and strong sedatives like barbiturates was limited to unmanageable patients. Today, it has become almost a routine procedure in many practices, especially with children from the age group three to four years and up. All children are perceptive and inquisitive and the esoteric effects from these drugs are retained in their minds.

Is the risk involved in drug therapy worth it?

A. C. Ahrens, DDS, MSD
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Medicine Hat, Alta

Dialogue

Continuing the debate over "individual voluntary conjoint membership" in local, provincial and national associations, the Journal this month invited three readers to outline their views on the following questions: (1) Should the Canadian Dental Association be composed of individual licensed dentists who pay a voluntary membership fee directly to the national association? (2) Should the CDA be composed of individual licensed dentists holding voluntary membership in local and provincial corporate bodies? (3) Should the CDA be composed of a federation of provincial corporate bodies (without a direct link between the individual dentist and the national association)? Herewith are the replies from Doctor J. G. Cook of Truro, NS; Doctor L. E. Hastings of Thunder Bay, Ont; and Doctor B. G. Saik of Calgary.

Prefers compulsory membership in a federal dental board

Dentists practising in separate provinces seem to be estranged by petty politics. Why not therefore set up a federal board to lay down rules and regulations for dentistry which can apply to the whole country? Each province should elect a full-time salaried representative to such a board. These representatives would hold office for a stipulated period of time and the board would establish a uniform annual licence fee applicable to all provinces.

Subsidiary provincial associations could then be set up. Membership in these groups should be voluntary. They should be non-profit making organizations, responsible only for meetings of their members. Disciplinary problems should be referred directly to the appropriate provincial member on the federal board, who could pursue these matters further with his board colleagues if necessary. This arrangement would unite Canada's dentists much more closely than at present, and set a uniform standard for dentistry in all provinces.

Thus dentists who hold a certificate from the National Dental Examining Board and who have paid their licence fee should be allowed to practise wherever they wish in Canada.

As for the federal board, it should handle issues affecting the entire country. These issues and the decisions emanating from them would be reported in the

Journal. The board would be responsible for such matters as foreign dentists who apply for membership; duties of dental hygienists and dental auxiliaries; dental mechanics who perform chairside work for patients; and any necessary disciplinary actions. Affected individuals could appeal any ruling at a subsequent sitting of the board.

An important benefit is that individual provinces would no longer have to raise their fees to contest an issue which may recur in another province and engender further expense. A prime example occurred in Nova Scotia last year. Our dues were increased from \$85 to \$350 to pay for the expense incurred in defeating an attempt to legalize the status of dental mechanics. Should this not be a federal issue? Certainly, if the cost were borne by the federal board, the financial burden would be spread more evenly across the whole country.

There is, too, a severe shortage of dental manpower in Canada. The face of dentistry is therefore bound to change during the present decade. Though dental needs may vary from province to province, I fear complete chaos unless we have a federal dental board with adequate "police" powers. Otherwise confusion will only encourage "bootleg" dentistry. Meanwhile, denticare is looming and, if instituted, could further complicate professional issues.

Therefore, I suggest that the CDA should not be composed of individual licensed dentists paying a voluntary membership fee to the national association. I would rather see them holding voluntary membership in local and provincial corporate bodies, as long as they have to pay annual dues for their licence to a federal body. This body could be either the Canadian Dental Association or a Canadian federal dental board.

The third suggestion to form a federation of provincial corporate bodies sounds much more appealing, as long as the federation's decisions are country-wide. Dentists must have a link of some description with their paternal body, even if it is through their own provincial or local association.

In my view, the CDA Board of Governors is taking a backward step by allowing Ontario and Quebec to embrace individual voluntary conjoint membership in local, provincial and national associations. Communication in this vast country is already sufficiently difficult. But if this trend continues, we could end up with 10 autonomous province-states, each with high dental association dues, and each administering its own dental policies.

*J. G. Cook, BDS, DDS, LDS RCS
539 Prince St
Truro, NS*

Individual voluntary conjoint membership: a fair solution

Canadian dentists now practise in an atmosphere that increasingly favours review, and perhaps considerable change, in the legislative acts that govern their professional conduct and the delivery of health services to the public.

The work of the dentist and the regulation of auxiliary dental personnel have already come under scrutiny on several occasions. The McRuer Report has given Ontario's government a comprehensive look at the self-governing professions and occupations. That province has also received information from its Committee on the Healing Arts.

In Quebec, the Castonguay Commission has performed a similar task. The Economic Council of Canada has also made statements concerning the professions. And in Alberta, a complete review of the self-governing professions and occupations is now under way, led by a special legislative committee with a provincial cabinet minister at its head.

The consensus emerging from these exercises is that local, provincial and federal professional association dues should no longer be collected in conjunction with licence fees.

A possibility of "conflict of interest" has been cited because the professional associations tend to represent practitioners, whereas licensure reflects the public interest. In theory this may be so; therefore substantial changes in legislation now seem probable.

But the practical effect of this line of reasoning could be unfortunate. Human nature being what it is, if professional dues were entirely divorced from the payment of licence fees, it seems probable that associations—already thinly financed—might encounter still more serious budget problems.

Against this, it is argued that the American Dental Association—with 96 per cent of all American dentists—already exists on dues which are entirely voluntary. But this comparison is invalid because the United States has far more dentists than Canada. There are certain common "overhead" costs which must be borne by any organization, large or small. With a potential membership 10 times that of the CDA, the American Dental Association could still survive if a smaller proportion joined. But a reduction of any size in Canada would be disastrous for our own organizations.

It need scarcely be argued that a strong national association is essential to the welfare of our profession in this country. In the long run such an organization will contribute much to the standard of care we offer our patients. Many association-sponsored measures that should have Canada-wide implementation are most certainly in the public interest. New public health measures, fluoridation, preventive care, dental health campaigns on television and group insurance are issues which come immediately to mind. Local and even provincial organizations are often too small and too regional to carry out such projects effectively.

Even more appropriate at the national level are tasks like publishing professional journals, arranging major conventions, preparing professional education programs, and establishing standard-setting examinations and licensing boards. The latter functions will become more important as the need for evaluating the qualifications of foreign-trained dentists increases. This type of work, it should be noted, is ultimately in the public interest as well.

I see no real reason why these new functions cannot be incorporated under the current practice of paying association dues and licence fees to our licensing authorities. However, government legislation and public pressure may soon force us to make a change.

In that case the best solution would be individual

voluntary conjoint membership—with licence fees paid as a separate obligation, and combined dues for membership in local, provincial and national organizations paid as a single sum on a voluntary basis. Our associations would divide the latter among themselves.

The alternative—separate voluntary payment of dues to associations on each of the three levels—has several disadvantages. First, there will always be practitioners with real or imagined grievances against the local, provincial or national dental bodies. These feelings can be exploited as a justification for non-support of these organizations. Secondly, separate billing of dues is cumbersome and a nuisance for all concerned.

Conjoint payment of membership dues is therefore the most obvious answer to this emerging problem.

What is at stake is the effective preservation of the Canadian Dental Association. Unless we develop a new mechanism to ensure virtually 100 per cent support from Canada's relatively few practitioners, our national association may not survive in any worthwhile form.

*B. G. Saik, DDS
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Calgary, Alta*

Likes Ontario's present system

The value of any profession is closely matched by its ability to serve the public proficiently, efficiently, and with dignity. Conjoint membership therefore becomes essentially a matter of ethics and jurisprudence. This is important in today's context when ethical considerations are being increasingly sacrificed in the game of taking everything you can, asking for more, and giving as little as possible. The primacy of spiritual values over material concerns seems at times to be a lost cause. We can only wonder how much happier people have become as a result.

Dentists occupy a unique position in society—a position in which they can demonstrate that their first concern is for human values. It is clearly wrong to exploit the people we serve in order to satisfy our own material demands. It would be equally wrong to sacrifice individual rights in order to gain more favourable financial treatment from governments.

A good way to review the situation is to look back to the days when we had voluntary memberships in our associations. Since my experience has been chiefly with the Ontario Dental Association, I will deal specifically with this body.

At one time the ODA was funded by a small voluntary membership fee plus the revenue from an annual convention. This restricted financial base produced some noteworthy shortcomings. First, the areas in which the ODA could serve were limited. Secondly, whenever the ODA tried to represent the views of the profession, its role as a spokesman was questioned by

a government aware that only 60 per cent of Ontario dentists were voluntary ODA members.

The 1963 Woods Gordon survey of Ontario dental organizations confirmed that the Royal College of Dental Surgeons of Ontario was performing many tasks for the profession—tasks which were clearly the responsibility of an organization, like the ODA, dedicated to the needs of the profession.

The RCDS and the ODA therefore agreed to a new division of labour whereby the RCDS would be restricted to the public domain, leaving the ODA in charge of affairs related to the profession. A new financing formula was also devised to give effect to these changes. Under the plan, the RCDS was to collect all fees, including its licence fee, dues for membership in the Canadian and Ontario Dental Associations and, to some extent, local society dues.

The virtues of this arrangement have been a unified profession with everyone paying an equal share. No longer can the government challenge the ODA's claim as a spokesman for the entire profession in the province. And the RCDS is no longer vulnerable to conflict of interest charges since the college now concerns itself solely with its responsibility to the public.

The Ontario Committee on the Healing Arts nevertheless claims there is a conflict because the RCDS collects all the fees. The answer, of course, is that this manner of collection assures the government that the professional bodies with which it deals can speak for the entire profession. Any reversion to voluntary membership would fragment the profession and weaken its voice.

This brings me to Ontario's present licence fee. The RCDS-ODA liaison committee, formed subsequent to the Woods Gordon report, had something to say about it. The committee anticipated a reduction in the licence portion of the combined fee as the duties of the RCDS declined, and a larger allotment for the ODA in support of its growing work of professional development. This has not happened so far; it should now be done as soon as possible. And the capital assets of the RCDS, acquired from dentists' licence fees, should also be turned over to the ODA.

It has been suggested that CDA, ODA and local society dues be separated from the licence fee and collected on a voluntary basis. The intent is to make conjoint membership in the association so attractive (through insurance and other benefits) that no practitioner could afford to stay outside. But this eliminates all effective competition and deprives us of the option to choose on an individual basis.

The stream rushes on and we court the risk of damaging our own professional development by failing to adapt to change. If we are frightened, we should remember that the value of our profession depends upon its ability to serve the public proficiently, efficiently, and with dignity.

*L. E. Hastings, DDS
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Thunder Bay, Ont*



Gary Cooper

The Association

Canada named to FDI body

Canada has won a seat on the 15 member council of the Fédération Dentaire Internationale. Elected to the position at the recent 58th annual session of the FDI in Bucharest, Rumania, was CDA Executive Director W. G. McIntosh.

The FDI council corresponds to the Canadian Dental Association's Executive Council. It reports to the General Assembly at FDI annual sessions.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on October 31:

Fixed Income Fund \$10.514;

Common Stock Fund \$20.091.

Total assets (market value) of the plan were \$8,419,741.88.

The following portfolio purchase occurred during the preceding month: 2,500 shares Commonwealth Holiday Inns.

February 28, 1971, is the final date for contributions to the CDA Retirement Savings Plan for the 1970 taxation year. Money received after that date must be credited to 1971. Readers are urged to send their contributions early and mail them direct to Canadian Dental Service Plans Inc, 230 St. George St, Toronto 180, Ont.

Canada and the Provinces

Dentist defeats Flin Flon mayor

Edward Yauck, a 32 year old dentist, is the new mayor of Flin Flon, a north-western Manitoba mining centre, after scoring a decisive victory over the 82 year old incumbent, Jack Freedman.

In an election that saw better than 50 per cent of the town's 6,000 eligible voters go to the polls, Doctor Yauck re-

ceived 1,843 to 1,010 for Mr. Freedman and 328 for a third candidate.

Mr. Freedman has a record of 22 years in local municipal politics, the last 12 of them as mayor.

Doctor Yauck served two years as a councillor before challenging the mayor's post this year.

Dental Organizations

Nova Scotia dentists elect Doctor Dexter

The new president of the Nova Scotia Dental Association is C. E. Dexter of Halifax. He succeeds N. B. Anderson of Lunenburg.

Elected to the executive were W. B. Coleman, Halifax, president-elect; M. Harquail, New Glasgow, vice-president; D. C. T. Macintosh, Halifax, secretary; and R. G. Canning, Sydney River, member at large. J. E. Merritt, Halifax, is delegate to the CDA Board of Governors.

Doctor Hewitt heads Newfoundland dentists

G. M. Hewitt of Gander was recently installed as president of the Newfoundland Dental Association.

Other officers elected were C. P. Daly, first vice-president; W. J. Dwyer, second vice-president; B. L. Bowden, secretary; and B. S. Furlong, treasurer. All are from St. John's.

N. R. T. Littlejohn, Mount Pearl, was named assistant secretary.

Student Affairs

Student at Western University elected to CDA Board of Governors

Gary Cooper of 265 Mount Pleasant Ave, London, Ont, has been elected the first non-voting student representative on the Board of Governors of the Canadian Dental Association.

Mr. Cooper, a third year dental student at the University of Western Ontario, was elected at the October 21-24 Canadian Dental Students' Conference. His term of office on the CDA Board expires at the convening of the next dental students' conference, tentatively set for October 1971. On a separate ballot, Mr. Cooper was also elected chairman of the next students' conference.

Dental Education

Study will assess teacher needs for a national dental care program

The Department of National Health and Welfare has approved a public health grant for a study entitled "Delivery of Dental Health Care on a National Basis: Its Implications on the Training of Personnel." Recipients are the Association of Canadian Faculties of Dentistry, which initiated the project, and the University of Manitoba.

Ottawa has granted \$23,000 for 1970 and will grant \$20,000 for each of 1971 and 1972.

Dean J. W. Neilson of the Faculty of Dentistry, University of Manitoba, is a member of a five man committee responsible for the study. Its objective, according to Doctor Neilson, is to assess the implications of a national dental care program with reference to undergraduate curricula and continuing education needs of practitioners.

Faculties association elects officers

S. Wah Leung, dean of the Faculty of Dentistry, University of British Columbia, has been elected president of the Association of Canadian Faculties of Dentistry. He succeeds J.-P. Lussier, dean of the Faculty of Dental Surgery, Université de Montréal.

Other executive officers are: W. H. Feasby, University of Western Ontario, London, vice-president; D. V. Chaytor, Dalhousie University, Halifax, secretary-treasurer; K.C. Bentley, McGill Univer-



S. Wah Leung

sity, Montreal; and R. V. Blackmore, University of Alberta, Edmonton.

R. G. Stephens, Halifax, is editor of the *ACFD Newsletter*.

Montreal club donates to CFDE

The Montreal Dental Club has made a donation to the Canadian Fund for Dental Education in memory of the late Pierre Laporte, former Quebec Minister of Labour.

The decision was announced October 26 by G. M. Dundass, president of the Montreal club. Doctor Dundass said the donation would be made from proceeds of the Montreal club's annual fall clinic held October 26-28.

Regional Conventions

More auxiliaries and prevention could raise productivity, cut costs

An American dental leader has urged greater use of auxiliaries and expansion of their duties to meet rising public pressure for more dental care at lower cost.

Harold Hillenbrand, Chicago, told the annual Fall Clinic of the Montreal Dental Club, October 26, that "health professionals cannot stem the world-wide pressures for better organization of health services." Doctor Hillenbrand, who is executive director emeritus of the American Dental Association and president-elect of the *Fédération Dentaire Internationale*, ascribed these pressures to population growth, rising incomes, advances in health care and growing acceptance that "health is a human right."

He identified rising health care costs and inadequate health care delivery in rural areas as principal causes for government intervention and the trend toward organized national health programs in the United States.

"These are the major sources of pressure to lower the cost and increase the productivity of health services in our country," he said.

Noting that the US population will increase 50 per cent by 1980, Doctor Hil-

lenbrand pointed to the predicament of American dentists who now produce \$2.4 billion of dental care annually and are being asked to deliver another \$1 billion worth with the same workforce in the next three years.

The only answer is to increase the number of auxiliaries, expand the range of their duties, and exploit prevention to reduce demands for service from an overworked workforce.

Doctor Hillenbrand said auxiliaries with expanded duties can augment the dentist's productivity, giving him a better practice and greater income. But the dentist must be fully responsible for the treatment rendered, and his judgement must govern what the auxiliaries will do.

Cite value of nitrous oxide relative analgesia in dentistry

Relative inhalation analgesia, using nitrous oxide, eliminates most fear and much of the pain and discomfort of dental operations, according to Harry Langa, president of the American Analgesia Society.

Speaking at the Montreal Dental Club Fall Clinic October 26, Doctor Langa said relative analgesia can eliminate 90 per cent of local anaesthetic injections in adults and even a higher percentage in children. Unlike general anaesthesia, it can be employed in every branch of dentistry.

The method uses a nitrous oxide-air mixture to produce amnesia and analgesia without loss of consciousness. Starting with a 5 per cent nitrous oxide-air mixture, the gas concentration is slowly increased until it reaches 20 to 25 per cent, thereby avoiding hallucinatory effects. The nitrous oxide depresses the reticular activating centre of the thalamus, disorienting the passage of noxious stimuli. This causes the patient to lose fear while retaining command of his normal protective reflexes.

Doctor Langa said the nitrous oxide-air mixture is superior to other analgesics because of its high margin of safety, lack of side effects, reversibility, ease of administration, rapid onset and recovery. The gas is inexpensive, and relative analgesia requires no premedication, the New York dentist said.

One to three minutes of oxygenation, started just before the end of the operation, speeds recovery. Properly administered, nitrous oxide analgesia never excites patients and does not cause nausea, vomiting or laryngospasm. There has never been a single fatality with it, Doctor Langa added.

Relative inhalation analgesia has great value in situations where local anaesthetics cannot or should not be used, such as infections, cardiovascular disease and in patients who do not want local anaesthesia. It also enables the dentist to work in a more relaxed state, thereby enhancing his productivity.

Economics

Health care expenditure quadruples in 12 years

Expenditures on health care in Canada almost quadrupled from 1957 to 1969, according to a report released October 20 by Health Minister John Munro.

Canada's gross national product in the same period increased about two and a half times.

The report by the health department's Research and Statistics Directorate showed that expenditures for hospital care, physicians, dentists and prescribed drugs climbed at an average annual rate of increase of 11.7 per cent.

The amount spent on dentists' services increased from \$85 million in 1957 to \$231 million in 1969.

The largest increase in a single year was 14.2 per cent between 1967 and 1968 or \$27 million. Spending on dental services jumped another 8.3 per cent between 1968 and 1969. Per capita expenditures on dental services more than doubled between 1957 and 1969, rising from \$5.10 a person to \$10.97.

The report said the addition of fluoride to drinking water has reduced tooth decay markedly in some areas, but its impact on the nation as a whole has yet to be felt. Restoration of teeth through fillings, periodontal treatment and construction of bridges and dentures still constitute the bulk of dental practice.

\$6 billion health costs predicted in 1975

Salaries, wages and fees paid to people in the nation's "health industry" will cost Canadians \$6 billion by the mid-1970's, according to the Economic Council of Canada.

Total expenditures on personal health care by then may amount to about 6.5 per cent of the projected gross national product, versus 5.5 per cent in 1969 and 3 per cent in the 1950's, the council says.

Much of the increase stems from the high labour content of health care. Earnings of health professionals and people in ancillary services will account for about 80 per cent of the nation's total health bill, and 70 per cent of hospital operating costs.

The council forecasts a possible shortage of physicians and claims that a shortage of dentists is "almost certain." It estimates that there will be 8,500 dentists in Canada by 1975, a 30 per cent increase over 1967. The estimate is based on the output from existing dental schools, immigration and retirements from the profession.

If there are inaccuracies in the council's forecasts, the errors could be underestimations. The forecasts of income

growth are based on a population growth of 1.7 per cent per year, a 2.9 per cent per year growth in use of health manpower services, and a rate of price increases in health services of approximately 4 per cent per year.

But these factors could be on the low side, especially the rate of increase in health service costs which for the past several years have often exceeded forecasts.

Montreal club asks voice in medicare parleys

The Montreal Dental Club has asked Quebec Health Minister Claude Castonguay for a separate seat at the medicare bargaining table for a representative of its members.

The club has expressed concern about limitations in Quebec's Medical Care Insurance Act (Bill 8) with respect to the profession's future capability to meet the known public demand, especially the freedom of the patient to seek out highly competent professional service.

Tufts' grant to train new types of auxiliary

Tufts University dental school has received a two year \$66,000 grant from the US government to develop programs to train new types of dental auxiliary personnel.

The study will cover training programs in the areas of office manager, equipment repair technician, geriatric dental aide and auxiliary educator.

The study will test expanded duties for auxiliary personnel in the areas of restoration, paedodontics, prosthetics and orthodontics. The study will also seek to identify and resolve problems of acceptance of the specially trained auxiliaries by state and local dental society members, allied health professional groups, dental examiners, faculty, students and the public.

Fluoridation

Fluoridation comes to Moncton

Moncton has become the first municipality in New Brunswick to begin voluntarily adding fluoride to its drinking water. Fluoridation was introduced to the city's water system on September 20.

Edmundston is acquiring fluoridation machinery, although the issue was still being debated there at last report.

New Brunswick communities drawing their water from military bases also have fluoridated water, because two

years ago the federal defence department ordered all bases to adopt the treatment. The largest thus affected is the town of Oromocto, which was built as a dormitory area for Base Gagetown and shares its water supply. Other bases include the Chatham Air Base, St. Margaret's Radar Base nearby and the Corderdale Naval Establishment.

The city of Saint John and the town of Hartland have both scheduled fluoridation plebiscites with the 1971 municipal elections.

The village of Nashwaaksis has approved the idea in principle but has not yet acted on the measure.

The town of Woodstock voted against it in a 1968 plebiscite. St. Stephen and Sussex have debated the issue but remain undecided.

Manitoba community votes for fluoride

Virten, Man, voters recently approved a by-law to fluoridate the town's water supply.

The vote was 793 to 234 in favour of the measure.

Research

Craniofacial conference set for Jan 27-29

A conference on several significant aspects of craniofacial growth and development has been scheduled for January 27-29, 1971, by the Dental Research Centre of the University of North Carolina, Chapel Hill, North Carolina.

There will be two symposiums: one on "Mechanisms of Growth and Development," the other on "Growth and Development of the Craniofacial Region."

The registration fee is \$15.

For further details, please write to A. D. Dixon, Associate Dean for Research, Dental Research Centre, University of North Carolina, Chapel Hill, NC 27514, USA.

Await results of test with anticariogenic gum

British Columbia's public health authorities are awaiting results from a three year clinical trial of a chewing gum being tested for its decay-inhibiting properties. The experiment, which ended in Trail, BC, last summer, involves a gum containing dicalcium phosphate dihydrate agglomerated with sugar.

The study, according to Frank McCombie, director of preventive dentistry with the British Columbia public health service, is important because sugarless gums are usually more expensive than ordinary gums. The test

gum, if found effective, will be marketed at a price comparable to regular gums. It comes from the Warner-Lambert Research Institute of Morris Plains, New Jersey.

The experiment was conducted by A. S. Richardson, formerly a regional dental consultant with the BC public health service, and now with the Faculty of Dentistry of the University of British Columbia.

About 800 students, initially in grades three and four, were divided into three carefully balanced groups. One group chewed the dicalcium phosphate gum three times each school day under classroom supervision; the second group chewed a sugar-free gum, and the third group received no gum during the study period.

The results are now being analysed by the BC Health Branch and will be submitted for publication in the *Journal* early next year.

Awards and Appointments

Honoured with the Medal of Service of the Order of Canada is **Gordon Bates**, MD, 75, vice-president and general director of the Health League of Canada.

Deaths

Carroll, Kenneth Irving. 47. Port Colborne, Ont. University of Toronto, 1945. 24-10-70. Survived by Willamine Roberta (wife); John David (son); Mary Patricia, Joan Elizabeth and Maureen (daughters); Mrs. W. I. Carroll (mother); Glenn E. and Donald H. (brothers); and Mrs. E. F. Carberry and Mrs. Murray Corse (sisters).

Coyne, Clarence A. 78. Leamington, Ont. Royal College of Dental Surgeons of Ontario, 1917. 16-10-70.

Dansereau, Edmond. 70. Montréal. Université Laval, 1927. 8-10-70.

Dormer, John Garfield. 72. Ottawa. Royal College of Dental Surgeons of Ontario, 1923. 7-10-70. Survived by Percy (brother) and William (nephew).

Grahame, John M. 73. Winnipeg. Royal College of Dental Surgeons of Ontario, 1920. 17-10-70. Survived by Lilian (wife); Dr. G. R. (son); and Mrs. R. L. Cooke (daughter).

Horsley, Harry Edwin. 41. Calgary, Alta. University of Alberta, 1953. 14-10-70.

Liesemer, Herbert Conrad. 74. Calgary, Alta. Royal College of Dental Surgeons of Ontario, 1922. 12-8-70. Survived by Stewart (son); Mrs. B. Watson (daughter); and Mrs. J. Pearson and Mrs. O. Halliday (sisters).

Wertman, Murray. 48. St. Catharines, Ont. University of Toronto, 1944. 21-10-70. Survived by Helene (wife).

Les actualités dentaires

L'Association

Election du Canada au conseil de la FDI

Le Canada siégera au conseil de la Fédération Dentaire Internationale. Le Dr W. G. McIntosh, directeur général de l'ADC, y a été élu lors de la 58^e assemblée annuelle de la FDI à Bucarest (Roumanie).

Le conseil de la FDI correspond au Conseil exécutif de l'Association Dentaire Canadienne. Il compte 15 membres et fait rapport à l'Assemblée générale lors des réunions annuelles.

Au cours du mois précédent, les transactions ont été les suivantes: achat 2,500 actions de Commonwealth Holiday Inns.

Les cotisations au Régime d'épargne-retraite de l'ADC pour l'année fiscale 1970 doivent être versées avant le 28 février 1971. Les sommes reçues après cette date devront compter pour l'année 1971.

Les lecteurs sont donc priés d'envoyer dans les plus brefs délais leur cotisation directement à: Canadian Dental Service Plans Inc, 230 rue St. George, Toronto 180, Ont.

révélatrices de la croissance et du développement. Elle déterminera également le niveau d'additifs alimentaires, de substances non-nutritives et de résidus d'insecticides que les gens consomment.

Pendant deux ans, deux équipes d'enquêteurs (l'une travaillant en langue anglaise, l'autre bilingue) parcourront le Canada et examineront 21,000 Canadiens. L'évaluation finale de ces données sera faite fin 1972 et en 1973.

L'enquête couvrira cinq régions: l'Ontario, les provinces atlantiques, le Québec, les Prairies et la Colombie-Britannique. L'échantillonnage de la population selon l'âge, le sexe et le revenu familial a été effectué par le Bureau fédéral de la statistique dans 80 zones d'énumération de chaque région. Les variations saisonnières des habitudes alimentaires, automne-hiver et printemps-été, seront évaluées grâce à deux études effectuées dans chaque région.

L'Enquête sur la nutrition au Canada est organisée par la Direction des aliments et drogues du ministère de la Santé nationale et du Bien-être social.

Le Canada

L'enquête sur la nutrition au Canada débute à Ottawa

L'équipe chargée par le gouvernement fédéral d'enquêter sur la nutrition au Canada a commencé une étude des habitudes diététiques et de l'état nutritif des Canadiens le 3 octobre à Ottawa.

L'enquête évaluera l'état nutritif des Canadiens au moyen d'entrevues, d'épreuves de laboratoire, d'examen médicaux et dentaires et de mensurations

L'enseignement dentaire

Etude du besoin en professeurs dans un régime d'assurance dentaire nationale

Le ministère de la Santé nationale et du Bien-être social a accordé une subvention à une étude portant sur la distribution des soins dentaires sur une base nationale et de la portée qu'un tel régime aurait sur la formation du person-

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 octobre:

Fonds à revenue fixe \$10.514;

Fonds d'actions ordinaires \$20.091.

L'avoir total (valeur marchande) du régime se montait à \$8,419,741.88.



Brochure sur les services de l'ADC, communiqués de presse, manuel de relations extérieures, chroniques dentaires pour quotidiens et hebdomadaires, dépliants et films de l'ADC, étaient inscrits au programme de la réunion du Conseil des communications de l'ADC, le 14 octobre à Toronto. On reconnaît, troisième de g. à d., le Dr Lucien Bossé, de Dorval, assis. Le Dr Adéland LeBlanc, de Lachine, était également présent mais n'apparaît pas sur la photo.

nel. La subvention est attribuée à l'Association des facultés dentaires du Canada, qui est à l'origine du projet, et à l'Université du Manitoba.

Ottawa a accordé \$23,000 pour l'année 1970 et accordera \$20,000 en 1971 et autant en 1972.

Le Dr J. W. Neilson, doyen de la faculté de chirurgie dentaire de l'Université du Manitoba, fait partie du comité de cinq membres qui est responsable de l'étude qui aura pour but d'évaluer la portée d'un régime d'assurance dentaire nationale en ce qui concerne les programmes d'études universitaires et les besoins en éducation permanente des praticiens.

Elections à l'AFDC

Le Dr S. Wah Leung, doyen de la Faculté de chirurgie dentaire de l'Université de la Colombie-Britannique, a été élu président de l'Association des facultés dentaires du Canada. Il succède au Dr J.-P. Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal.

Les autres membres du bureau sont les docteurs W. H. Feasby, de l'Université Western Ontario (London), vice-président; D. V. Chaytor, de l'Université Dalhousie (Halifax), secrétaire-trésorier; K. C. Bentley, de l'Université McGill (Montréal); et R. V. Blackmore, de l'Université de l'Alberta (Edmonton).

Le rédacteur du bulletin de l'AFDC est le Dr R. G. Stephens, de Halifax.

La fluoruration

Suisse: une conférence réaffirme l'innocuité du fluor

Réunis à Vichères, en Suisse, 21 savants de neuf pays ont réaffirmé que la fluoruration de l'eau potable constituait une mesure préventive sans danger et hautement souhaitable pour les programmes d'hygiène dentaire publique. Leur jugement unanime a été annoncé à l'issue d'une conférence de cinq jours (11-16 septembre) sur la prévention de la carie, tenue par l'Organisation européenne pour la recherche sur la carie (ORCA).

Le communiqué des chercheurs qualifie la fluoruration de l'eau de méthode simple qui offre la possibilité d'administrer le fluor pendant toute la vie. L'emploi de très fortes doses de fluor dans le traitement expérimental des maladies osseuses atrophiques, comme l'ostéoporose, la maladie de Paget et le myélome multiple, fournit la preuve indirecte de l'innocuité des doses employées pour prévenir la carie.

Le communiqué poursuit: "Aucun

autre élément ne contribue autant à prévenir la carie dentaire" et "aucun autre facteur n'est plus important pour cela que la présence continue de concentrations optimales de fluor à la surface de la dent et dans la plaque dentaire".

La conférence a estimé que l'action locale du fluor est peut-être plus importante que ne l'ont reconnu les études précédentes. Cet effet topique existe dans l'administration par voie générale grâce à la fluoruration de l'eau ou par comprimés, aussi bien que dans les méthodes classiques d'application topique.

Lorsque la fluoruration n'est pas réalisable, dit le communiqué, les autres méthodes employées pour fournir le fluor doivent se conformer au plus grand nombre des critères suivants: administration fréquente, régulière, sans danger et peu coûteuse, dans une présentation produisant une action générale aussi bien que locale.

Les tribunaux américains confirment la légalité de la fluoruration

Un article paru dans le *Journal de l'Association Médicale Américaine* (daté du 19 janvier 1970) et qui étudie les cas dans lesquels la fluoruration a comparu devant les tribunaux américains révèle que le statut juridique de cette mesure d'hygiène est solide.

"Aucun tribunal n'a condamné la fluoruration pour des raisons de nocivité", écrit R.P. Bergen, de la section juridique de l'AMA. "Dans quelques rares cas, ses adversaires ont eu gain de cause, mais seulement pour des raisons de procédure".

La fluoruration a reçu l'appui des tribunaux dans 15 états et la Cour suprême fédérale s'est toujours refusée à réviser les procès impliquant la fluoruration pour la raison qu'ils ne relèvent pas de la compétence fédérale.

Malgré leurs rares victoires, les adversaires de la fluoruration n'ont cependant pas abandonné la lutte. Bergen prédit que l'on assistera à d'autres tentatives devant les tribunaux et le public pour stopper la fluoruration, mais à toutes fins pratiques, il s'agit d'un procédé qui est de plus en plus accepté et qui ne génère plus l'intérêt du public.

Les ennemis de la fluoruration l'ont attaquée en tant que résidents, citoyens, contribuables, consommateurs, électeurs et membres de sectes religieuses. Leurs arguments, dit Bergen, sont tout autant variés.

Ceux qui prétendent que la fluoruration constitue un abus de l'autorité municipale ont soutenu qu'elle est inutile, dangereuse, illégale, qu'elle représente un gaspillage, une législation de classe, une rupture de contrat entre une municipalité et les consommateurs d'eau, un emploi illégal des fonds publics, une atteinte aux droits du public, un médica-

ment obligatoire, une médecine socialisée, ou qu'il existait d'autres solutions raisonnables. D'autres encore prétendent que le procédé porte atteinte à leur liberté religieuse en les obligeant à consommer dans l'eau des additifs proscrits par leurs convictions religieuses.

L'économie

Le Sénat et les Communes modifieraient les propositions de réforme fiscale

Le Comité du Sénat sur les affaires bancaires et le Comité des finances de la Chambre des Communes ont proposé de nombreuses modifications au livre blanc sur la réforme fiscale.

Le rapport des sénateurs, déposé à Ottawa le 1^{er} octobre, repousse la plupart des propositions les plus radicales du gouvernement. Il conclue que l'actuelle loi des impôts ne nécessite aucune révision importante et que tous les changements nécessaires peuvent être effectués au moyen d'amendements.

Le rapport du comité des Communes, déposé le 5 octobre, recommande également des compromis mais il s'abstient de modifier profondément le livre blanc.

En ce qui concerne les objectifs de l'impôt, les deux comités insisteraient moins sur l'équité que sur l'extension et réduiraient fortement le niveau de redistribution du revenu que le livre blanc envisageait.

Le gouvernement souhaitait que les professions libérales passent, pour le calcul de l'impôt, de la comptabilité de gestion à la comptabilité d'exercice. Dentistes, médecins et avocats se sont plaints qu'ils seraient alors imposés sur le travail en cours, même si celui-ci n'avait pas encore été facturé ni même terminé.

Les sénateurs ont rejeté complètement cette proposition, mais le comité des Communes a élaboré un compromis, selon lequel les professions libérales seraient imposées sur le travail facturé, même si la facture n'a pas encore été encaissée, mais non sur le travail non encore facturé.

Tout comme le comité des Communes, les sénateurs ont rejeté une proposition visant à interdire la déduction des frais de représentation, de congrès et frais semblables. Ils ont déclaré que les contribuables ne devaient pas être pénalisés à cause des difficultés administratives à distinguer correctement entre les dépenses de cette nature qui sont légitimes et celles qui ne le sont pas.

Le comité des Communes a proposé une déduction fiscale plus généreuse pour les séminaires d'affaires et frais de congrès. La déduction concernerait les frais encourus pour envoyer un homme d'affaires à deux séminaires éduca-

tifs par an, ou, autrement, des réunions qui sont soit des congrès soit des séminaires éducatifs.

Tout en remarquant que le livre blanc projette d'éliminer la déduction fiscale des frais de congrès, le comité a fait valoir que les frais encourus pour assister à un ou deux congrès par an devraient être déductibles, "lorsque le contribuable peut montrer que les frais ont été authentiquement entrepris pour raison d'affaires et lorsqu'ils sont raisonnables".

Le comité n'a avancé qu'une restriction, que les frais de congrès ne soient pas déductibles lorsque celui-ci a lieu en dehors des limites territoriales de l'organisation responsable. Il serait ainsi impossible de déduire les frais d'un congrès canadien qui se tiendrait à Nassau, par exemple.

Le comité s'est également montré plus clément envers les frais de représentation. Si des mesures appropriées écartent les abus, et s'il appartient au contribuable de prouver que sa demande est légitimement liée à sa profession, la déduction devrait être permise.

Le comité a également approuvé les propositions visant à permettre la déduction, dans le calcul de l'impôt, des frais de garde d'enfants et des frais de dépenses de l'employé, mais il voudrait que soient maintenues les exemptions actuelles sur le revenu provenant de bourses et de subventions de recherche.

Les frais de santé s'élèveraient à \$6 milliards en 1975

Les salaires et honoraires versés aux personnes travaillant dans "l'industrie de la santé" coûteront \$6 milliards aux Canadiens en 1975, selon le Conseil économique du Canada.

Les dépenses totales en soins de santé personnels atteindraient alors 6.5 p.c. du produit national brut prévu, contre 5.5 p.c. en 1969 et 3 p.c. dans les années '50.

Cette augmentation s'explique en grande partie par le grand nombre de personnes employées en ce domaine. La rémunération des professionnels et des auxiliaires représentera près de 80 p.c. du coût des services de santé de la nation et 70 p.c. du coût de fonctionnement des hôpitaux.

Le conseil prévoit la possibilité d'un manque de médecins tandis qu'une pénurie de dentistes est presque certaine. Il estime qu'il y aura 8,500 dentistes au Canada en 1975, soit 30 p.c. de plus qu'en 1967. Cette estimation tient compte de la production des facultés dentaires actuelles, de l'émigration et de l'accession à la retraite dans la profession.

Si les prévisions du conseil contiennent des erreurs, elles pourraient être dues à des sous-estimations. Les prévisions d'augmentation du revenu se

fondent sur un accroissement de la population de 1.7 p.c. par an, un accroissement dans l'utilisation des services du personnel sanitaire de 2.9 p.c. et une augmentation des prix des services d'environ 4 p.c. par an.

Mais ces facteurs pourraient être sous-estimés, surtout le taux d'augmentation du prix des services de santé qui, au cours des dernières années, a souvent dépassé les prévisions.

Gratuité des soins dentaires pour les enfants âgés de cinq à huit ans, à Terre-Neuve

Tous les enfants de Terre-Neuve et du Labrador âgés de cinq à huit ans pourront bénéficier de soins dentaires gratuits, pourvu qu'un dentiste accepte de les soigner, a annoncé récemment le ministre de la Santé, M. Edward Roberts.

M. Roberts a déclaré qu'auparavant les enfants de cinq à huit ans ne pouvaient recevoir les soins que s'ils habitaient dans la même localité que le dentiste.

La suppression de cette restriction géographique, a-t-il expliqué, signifie que tout enfant de Terre-Neuve et du Labrador entre ces âges peut avoir accès aux soins dentaires.

Expérience sur l'emploi des auxiliaires dentaires en Saskatchewan

La Saskatchewan a entrepris une étude pilote afin de déterminer s'il est possible d'employer des auxiliaires dentaires, sous la surveillance directe d'un dentiste, pour fournir certains services dentaires aux écoliers. L'étude a débuté en septembre dernier dans l'unité scolaire d'Oxbow et une partie de l'unité scolaire d'Arcola. Elle coûtera \$400,000, durera quatre ans, et portera sur quelque 3,000 écoliers de moins de 13 ans.

Le projet a nécessité l'achat de \$31,000 de matériel, soit l'équipement et les fournitures dentaires, ainsi qu'une remorque mobile.

L'unité mobile comprend quatre fauteuils dentaires, un appareil de radiographie et d'autres équipements, plus des zones de réception, de bureau et d'entreposage.

Le personnel est composé d'un dentiste, deux auxiliaires dentaires, trois assistantes diplômées et une secrétaire.

Si l'étude est couronnée de succès, elle pourrait conduire à de nouveaux systèmes de traitement dentaire en Saskatchewan, surtout dans les zones rurales.

Le projet s'effectue avec la coopération des deux unités scolaires concernées, du Collège des chirurgiens den-

tistes et de la Faculté dentaire de l'Université de la Saskatchewan.

La recherche

Analyse des résultats d'une étude sur une gomme anticariogène

Le service d'hygiène publique de la Colombie-Britannique attend les résultats d'un essai clinique portant sur les propriétés d'inhibition de la carie d'une gomme à mâcher. L'expérience, qui a duré trois ans et s'est terminée à Trail l'été dernier, concerne une gomme contenant du phosphate dicalcique aggloméré à du sucre.

Selon le Dr Frank McCombie, directeur de la dentisterie préventive du service d'hygiène publique de la Colombie-Britannique, l'étude doit son importance au fait que les gommages sans sucre se vendent généralement plus cher que les gommages ordinaires. Si la nouvelle gomme se révèle efficace, elle sera mise en marché à un prix comparable à celui des autres. Elle a été mise au point par l'Institut de recherche de la compagnie Warner-Lambert de Morris Plains, au New Jersey.

L'expérience a été réalisée par A.S. Richardson, alors qu'il était consultant dentaire régional auprès du service d'hygiène publique provincial. Il fait maintenant partie de la Faculté de chirurgie dentaire de l'Université de la Colombie-Britannique.

Quelques 800 écoliers de troisième et quatrième année avaient été répartis en trois groupes soigneusement équilibrés. Le premier groupe mâchait la gomme au phosphate dicalcique trois fois par jour, en classe et sous surveillance. Le second mâchait une gomme sans sucre et le troisième ne recevait aucune gomme pendant la période d'étude.

Le service d'hygiène provincial analyse actuellement les résultats et les transmettra au Journal pour publication au début de l'année prochaine.

Technologie nouvelle

La brosse stylo

Les campeurs, amateurs de bateau, pêcheurs ou voyageurs pourront bientôt se procurer un petit appareil de la forme d'un stylographe combinant la brosse à dents et le dentifrice.

Mise au point par Turner Plastronics de Newport, Arkansas, la brosse stylo contient du dentifrice pour 18 brossages. En donnant un léger tour au distributeur, celui-ci étale sur les poils la pâte nécessaire à un brossage. La brosse et le dentifrice peuvent se remplacer facilement.

La taille de l'objet permet de l'emporter dans un sac à main ou de l'accrocher à la poche d'une chemise.

Déclaration fédérale d'impôt sur le revenu

Le Ministère du Revenu national a révisé les instructions suivantes, qui ont pour but d'aider les dentistes à préparer leur déclaration annuelle, pour l'imposition sur le revenu.

Le revenu

Chaque dentiste doit tenir un compte exact des revenus qu'il retire de sa profession (honoraires) et d'autres sources (placements, loyers de biens immobiliers, etc.). Les comptes doivent être clairs et susceptibles d'être comparés rapidement à la déclaration remise. Les comptes doivent être tenus dans des livres à cet effet, lesquels doivent être conservés tant que le dentiste ne reçoit pas la permission écrite de s'en défaire du ministre du Revenu national.

Les frais

Les postes suivants devraient figurer sous la rubrique des frais, et on doit conserver aux fins de vérification les documents à l'appui des dépenses qui y sont portées:

(a) Fournitures dentaires et assimilées.

(b) Préposé à l'entretien, infirmière, comptable, blanchisserie et assurance contre la négligence professionnelle:

Le montant des appointements et salaires payés doit être déclaré sur des feuillets T4-T4A sommaires et T4 supplémentaires, fournis par le Bureau de district de l'impôt. (La Loi de l'impôt sur le revenu n'autorise pas la déduction d'un salaire payé par le mari à la femme ou vice versa. Si une telle somme est versée, elle doit être rajoutée au revenu du payeur.)

(c) Frais de téléphone liés à l'exercice de la profession.

(d) Salaire d'assistante:

Les noms et adresses des assistantes auxquelles un salaire est payé, ainsi que le montant payé, doivent être déclarés chaque année, au plus tard le dernier jour de février, sur les feuillets T4-T4A sommaires et T4A supplémentaires. (Ne pas confondre avec la

déclaration d'impôt individuelle, la formule T1, qui doit être envoyée au plus tard le 30 avril de chaque année.)

(e) Frais de loyer:

On doit fournir le nom et l'adresse du propriétaire des locaux loués (de préférence) ou de l'agent [voir (g)]. On doit percevoir à la source une taxe de non-résident sur le loyer payé à des propriétaires non-résidents de locaux loués.

(f) Frais de poste et papeterie.

(g) Dépenses proportionnelles du dentiste exerçant à son domicile:

1. La résidence appartient au dentiste: Quand le dentiste exerce dans une maison qu'il possède et qu'il habite, il a droit, pour la surface occupée par le laboratoire, le cabinet et la salle d'attente, à une déduction proportionnelle des dépenses de la maison calculée d'après le rapport de cette surface à la superficie totale de la maison. Les frais comprennent les taxes, l'électricité, le chauffage, l'assurance, les réparations et l'intérêt hypothécaire. (Les nom et adresse du créancier hypothécaire doivent être mentionnés.) N.B. — Voir article 2 (m) pour la dépréciation.

2. La résidence est louée par le dentiste: Le loyer est alors divisé proportionnellement s'il est payé par le dentiste. Le propriétaire de la maison assume toutes les dépenses mentionnées ci-dessus (paragraphe 1).

(h) Frais divers (ne figurant pas ailleurs):

Les frais portés à ce poste doivent se prêter à l'analyse et être étayés par des documents.

La déduction de dons de charité est autorisée jusqu'à 10 pour cent du revenu net total, à condition



de fournir les reçus au Bureau de district de l'impôt. Les dons de charité effectués dans l'exercice de la profession ne doivent pas être classés avec les frais professionnels, ils constituent, comme toutes les autres formes de dons, une déduction du revenu général.

Les droits annuels payés aux organismes de réglementation qui accordent l'autorisation de pratiquer, ainsi que les cotisations d'association doivent être inscrits sur la déclaration comme frais professionnels.

Les frais de scolarité payés en 1965 et les années suivantes à une maison d'enseignement au Canada, pour un cours post-universitaire, sont déductibles, mais on ne peut pas déduire les dépenses de voyage et d'entretien occasionnés par un tel cours.

(i) L'intérêt versé sur une somme empruntée peut être soustrait du revenu professionnel si l'emprunt a été fait pour des besoins professionnels. Si la somme a été empruntée pour effectuer un placement, l'intérêt est déductible du revenu de placements. L'intérêt payé sur un emprunt effectué à des fins personnelles ne donne lieu à aucune déduction sur le revenu.

(j) La taxe d'affaire constitue une dépense professionnelle, mais non les impôts sur le revenu.

(k) Frais d'automobile:



Les dépenses de taxi et d'automobile encourues en gagnant le revenu professionnel sont déductibles lorsque le dentiste doit rendre visite au patient à domicile. Cependant le coût du transport entre le domicile du dentiste et son cabinet n'est pas déductible du revenu. (La façon de calculer la réclamation des dépenses d'automobiles est exposée dans le Bulletin de renseignements No 28 de la Division de l'impôt du ministère du Revenu national. Elle a été partiellement reproduite dans le numéro de mars 1965 du Journal, pp 209-210.)

(1) Les cotisations des clubs mondains ne constituent une déduction du revenu que lorsque, et dans la mesure où, elles sont versées pour des raisons professionnelles, et tout dentiste qui les déduit peut être requis de prouver à la satisfaction des autorités fiscales que les sommes réclamées ont été dépensées entièrement et directement dans le but d'accroître son revenu professionnel. Les "cotisations de clubs sociaux" représentent les cotisations ou droits, annuels ou mensuels, des membres; elles ne comprennent pas les droits d'admission ou d'entrée, ni l'achat d'une part du capital social d'un club, ni les frais de nourriture, de boisson ou de logement, ni les droits versés pour y recevoir des invités et autres du genre.

(m) Allocation du coût en capital (dépréciation):

Le calcul de l'allocation du coût en capital aux fins de l'impôt est le même que celui de l'année dernière, excepté que:

1. Dans la plupart des cas, pour les dentistes (et les autres contribuables), l'allocation du coût en capital n'est plus limitée à la moitié du coût de certains biens. Cette limitation concerne les biens des classes 3 (maison de brique — cabinet ou résidence servant et de domicile et de cabinet), 6 (maison de bois — cabinet ou résidence servant et de domicile et de cabinet), et 8 (matériel dentaire et instruments de \$100 chacun et plus, mobilier et accessoires de cabinet) qui ont été acquis après le 29 mars 1966 et avant avril 1967, et elle ne s'applique qu'au cours de l'année fiscale pendant laquelle les biens ont été acquis et au cours des deux années fiscales suivantes.

2. En vertu d'une modification apportée aux Règlements de l'impôt sur le revenu, l'allocation du coût en capital sera en général différée pour le coût d'immeubles commerciaux construits dans des zones métropolitaines et urbaines désignées, au cours de la période allant du 4 juin 1969 au 31 décembre 1970.

Pour tous renseignements supplémentaires, consultez les Règlements ou le Bureau de district de l'impôt.

Frais de congrès

Les frais des congrès sont déductibles pour celui qui exerce une profession, mais l'allocation est limitée aux frais de deux congrès par année fiscale. La participation du contribuable au congrès doit se fonder sur des motifs professionnels. Les dépenses déductibles doivent être raisonnables et le contribuable doit indiquer:

1. Les dates auxquelles ou entre lesquelles le congrès s'est tenu, et le lieu.

2. Le nombre de jours de présence, justifié par un certificat de présence délivré par l'organisme responsable du congrès.

3. Les frais encourus, en distinguant les frais (a) de voyage, (b) de repas, (c) d'hôtel, à l'appui desquels on doit demander et conserver au moins les reçus.

Toutes les dépenses de nature personnelle, y compris celles qui seraient entraînées par la présence au congrès de l'épouse (ou du mari) du contribuable sont exclues de ce qui précède.

Les frais de participation à un congrès ne peuvent pas être déduits du revenu si celui-ci est un salaire; une telle déduction est alors interdite par l'article 5 de la Loi.

Le Ministère du revenu national a exprimé l'opinion que, généralement, le but professionnel d'un congrès commandité par une firme commerciale ou une organisation professionnelle canadienne, ne demande pas qu'il se tienne en dehors du Canada, lorsque l'organisation a un caractère national ou en dehors de la province, de la municipalité ou de la région du Canada où se limitent les activités de l'organisation. En conséquence, les dépenses encourues par suite de la participation à un congrès commandité par une organisation canadienne, qui s'est tenu en dehors de ces limites géographiques, ne sont généralement pas considérées comme déductibles pour le calcul du revenu. A cette fin, un congrès qui s'est tenu à l'occasion

d'une croisière sera considéré comme ayant eu lieu en dehors du Canada.

Régimes d'épargne-retraite enregistrés

Le montant déductible pour ceux qui contribuent à un régime d'épargne-retraite enregistré se limite:

(a) Dans le cas d'un employé percevant un salaire et couvert par un plan ou un fonds de pension enregistré, (qu'il cotise au fonds de pension ou non) — à \$1,500 ou 20 pour cent du revenu gagné, moins le montant, s'il y en a un, qu'il est autorisé à déduire de son revenu pour sa contribution au fonds de pension.

(b) Dans les autres cas, au moindre de \$2,500 ou de 20 pour cent du revenu gagné. Le "revenu gagné" comprend d'ordinaire le salaire perçu (avant toute déduction pour pension) ou le revenu provenant d'un commerce ou de l'exercice d'une profession, plus les revenus nets de loyers.

Sont déductibles les sommes qui ont été versées en 1970 et pendant 60 jours après la fin de l'année. Un versement effectué en janvier ou février 1970 ne peut pas être déduit en 1970 s'il aurait pu l'être en 1969.

Pour savoir si un régime futur ou existant donne droit à la déduction, on doit se renseigner auprès de la société qui offre le régime, car c'est elle qui normalement est responsable d'expliquer le régime et de le faire enregistrer.

Les dentistes qui ont demandé à bénéficier du régime d'épargne-retraite de l'Association dentaire canadienne (RERADC) avant le 28 février 1971 sont assurés qu'ils sont inscrits comme cotisants à un régime d'épargne-retraite enregistré et que leur contribution est déductible pour l'année fiscale 1970. La date limite des inscriptions et des contributions pour 1970 est fixée au 28 février 1971.

Un état de compte personnel et un reçu indiquant le montant des contributions seront adressés à chaque cotisant en mars 1971, à l'appui des déductions réclamées dans la déclaration d'impôt sur le revenu pour 1970.

Les demandes d'inscription au RERADC reçues après le 28 février 1971 donnent droit à la prorogation de l'impôt pour 1971.

Païement de l'impôt

Les particuliers qui retirent plus de 25 pour cent de leur revenu de sources autres qu'un traitement ou un salaire sont requis de payer l'impôt de chaque année par versements trimestriels au cours de l'année, aux dates suivantes: 31 mars, 30 juin, 30 septembre et 31 décembre.

Dentistes rémunérés par contrat

La loi de l'impôt sur le revenu autorise à déduire certains frais d'un revenu constitué par un traitement.

Les frais déductibles comprennent: les frais de déplacement, les cotisations professionnelles, le loyer de bureau, le salaire d'un assistant ou de son suppléant, les fournitures nécessaires à l'exercice de la fonction de l'employé.



Certaines conditions sont attachées à la déduction des frais. Les dispositions de la loi sont, en gros:

(a) Que les frais aient été encourus dans l'exercice des fonctions de l'employé.

(b) Que le contrat d'emploi stipule que les frais sont à la charge de l'employé.

(c) Pour réclamer les frais de déplacement, que l'employé soit contraint d'exercer les fonctions de son emploi loin du lieu d'affaires de son employeur. Les déplacements entre le domicile du dentiste et son cabinet sont exclus.

Revenu d'une société

Les dépenses supplémentaires encourues par un associé et qui n'ont pas été payées par la société peuvent être déduites de la part de revenu de l'associé. Cependant l'associé doit être en mesure de justifier ces dépenses, d'expliquer pourquoi elles n'ont pas été assumées par la société et de montrer qu'elles ont été entreprises nécessairement pour gagner le revenu de la société.

Impôt provincial des particuliers

Chacune des 10 provinces lève son propre impôt sur le revenu des particuliers qui y résident. Les particuliers dont le revenu est soumis à l'impôt provincial ne sont pas tenus d'envoyer une déclaration provinciale d'impôt sur le revenu séparément, excepté pour la province de Québec.

Frais médicaux

Pour les années d'imposition 1969 et suivantes, un contribuable, en faisant le calcul de son revenu imposable, ne peut inclure dans les frais médicaux des frais qu'il a acquittés lui-même ou qui ont été acquittés en son nom par son représentant juridique, lorsque le contribuable ou tel représentant s'est fait rembourser ou est en droit de se faire rembourser ces frais en vertu d'un régime d'assurance de soins médicaux établi conformément à une loi votée par le Parlement d'une province qui satisfait au critère stipulé dans le paragraphe (1) de l'article 4 de la Loi sur les soins médicaux.

Federal income tax returns by dentists

The Department of National Revenue has reviewed the following instructions to assist dentists in the preparation of their annual income tax returns.

Income

There should be maintained by every member of the dental profession an accurate record of income received from his profession (fees) and from other sources (investments, real estate rentals, etc). The record should be clear and capable of being rapidly checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

Expenses

Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Dental and like supplies.
- (b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums:

Amounts of salaries and wages paid should be reported on Forms T4-T4A Summary and T4 Supplementary, obtainable from your District Taxation Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income of the payer.)

(c) Telephone expenses incurred in connection with professional practice.

(d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Forms T4-T4A Summary and T4A Supplementary. (Do not confuse with individual return of income, Form T1, to be filed on or before April 30 in each year.)

(e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. [See (g).] Non-resident tax must be withheld at source from rent paid to non-resident owners of rented premises.

(f) Postage and stationery.

(g) Proportional expenses of dentists practising from their residences:

1. Owned by the dentist: Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest on mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (m).

2. Rented by the dentist: The rent will be apportioned if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (1) above.

(h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Taxation Office. Charitable donations made through professional practice should be excluded from professional expenses





and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practise is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

For 1965 and subsequent years, tuition fees paid to an educational institution in Canada for a post-graduate course are an allowable deduction, but no deduction may be made in respect of travelling or living expenses incurred in connection with the taking of such a course.

(i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income. (The manner of calculating claims for automobile expenses is described in Information Bulletin No 28 issued by the Taxation Division of the Department of National Revenue and reprinted in part on pages 209-210 of the March 1965 issue of the Journal.)

(l) Social club dues are allowable as deductions from income only when, and to the extent that, they are paid for business purposes, and any dentist claiming them may be required to prove, to the satisfaction of the taxation authorities that the amount claimed was expended wholly and directly for the purpose of increasing his business income. "Social club dues" means annual or monthly membership dues or fees; it does not include an initiation or entrance fee or the cost of a share of a club's capital stock, nor does it include charges for food and drink, living accommodation, fees for the introduction of guests and the like.

(m) Capital cost allowance (depreciation):

The method of computing capital cost allowance for tax purposes is the same as that used last year, except:

1. In most cases dentists (and other taxpayers) are no longer limited to capital cost allowances on one-

half, only, of the cost of certain assets. This limitation affects assets in classes 3 (brick building—office or residence used both as a dwelling and an office), 6 (frame building—office or residence used both as a dwelling and an office), and 8 (dental equipment including instruments each costing \$100 or more, office furniture and fixtures) which were acquired after March 29, 1966 and before April 1967 and applies only in the taxation year in which the property was acquired and in the two immediately following taxation years.

2. Due to a change in the Income Tax Regulations, capital cost allowance will be generally deferred on the cost of commercial buildings constructed in designated metropolitan and urban areas during the period June 4, 1969, to December 31, 1970.

For further information on this subject you may refer to the Regulations or you may consult your District Taxation Office.

Convention expenses

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof;

2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and

3. The expenses incurred, segregating (a) transportation expenses, (b) meals, and (c) hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

The Department of National Revenue has expressed the view that, ordinarily, the business purpose of a convention sponsored by a Canadian business or professional organization does not require that it be held



outside Canada, where the organization is national in character, or outside a particular province, municipality or other area in Canada where the activities of the organization are limited in scope to such an area. Consequently, expenses incurred in attending a convention sponsored by a Canadian organization that is held outside those geographical limits will normally be viewed as not deductible in computing income. For this purpose, a convention held during an ocean cruise will be viewed as being held outside Canada.



Registered retirement savings plans

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

(a) In the case of an employee receiving a salary who is covered by a registered pension fund or plan (whether or not he contributes to the pension fund) to \$1,500 or 20 per cent of his earned income, minus the amount, if any, he is allowed to deduct from income for his contribution to the pension fund.

(b) In other cases, to the lesser of \$2,500 or 20 per cent of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1970 and within 60 days after the end of the year. A payment made in January or February 1970 cannot be claimed in 1970 if it could have been deducted in 1969.

Individuals inquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 28, 1971 may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1970. The closing date for applications and contributions applicable to 1970 is February 28, 1971.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1971 to each participant to support claims made for deductions in 1970 income tax returns.

Applications for membership in CDARSP received after February 28, 1971 will entitle participants to tax deferment for 1971.

Payment of tax

Individuals whose income is more than 25 per cent derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, March 31, June 30, September 30 and December 31.

Dentists under salary contract

The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses. Without trying to recite the exact provisions of the law the main points are:

(a) That the expenses must have been incurred in the performance of the duties of the office for employment.

(b) That the employee is required under the contract of employment to pay the expenses.

(c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

Income from a partnership

Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

Provincial taxes on individuals

Each of the 10 provinces imposes its own tax on the income earned by an individual in that province. With the exception of the province of Quebec, no separate provincial income tax return need be filed by an individual whose income is subject to provincial tax.

Medical expenses

For 1969 and subsequent taxation years, a taxpayer in computing taxable income may not include in medical expenses any expense paid by or on behalf of the taxpayer or his legal representative for which the taxpayer or such representative has been reimbursed or is entitled to be reimbursed pursuant to a medical care insurance plan established pursuant to an act of the legislature of a province that satisfies the criteria set forth in subsection (1) of Section 4 of the Medical Care Act.

Interpretation of flexure (tensile) test results for amalgams

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The variations of compressive strength and flow rate in amalgam (mercury content) and specimen preparation variables (trituration time, condensation pressure) have been extensively studied and reported in the literature. But there has been relatively little study of the tensile behaviour of amalgam. The obvious reason for this is that the brittleness of amalgam precludes the application of a simple, direct tensile test, for premature failure will occur at the grip contacts with even slight misalignment of the grips.

The few tensile strength investigations of amalgam that have been reported include Robinson's¹ photoelastic study of various stress conditions occurring during expansion, the investigation of bearing strength as a function of margin angle by Jorgensen,² and more recently the investigation by Going et al³ on the tensile strength of amalgam as influenced by pins.

There have been no reported investigations relating flexure or tensile strength of amalgam to other mechanical properties. Accordingly, we undertook this investigation to determine the significance of the flexure or tensile behaviour of amalgam in relation to such properties as compressive strength, hardness and flow rate.

Materials and specimen preparation

Three commercial dental alloys, designated A, B and C, were selected for the investigation. The particular alloys chosen show a wide variation in mechanical properties, particularly for compressive strength and flow rate, against which the flexure or tensile behaviour may be compared.

The amalgam specimens were prepared by trituration a 1:1 mixture of mercury and alloy powder for 20 seconds in a Wig-L-Bug amalgamator. After trituration the samples were immediately condensed in a steel die at a pressure of 10,000 psi applied for one minute. To ensure optimum and consistent condensation a vibrator (laboratory model used for engraving metallographic specimens) was applied to the steel die during the condensation period. The condensed specimens were allowed to set at room temperature for seven days before testing.

A study was made of three commercial dental alloys to assess the significance of the flexure or tensile behaviour of amalgam in relation to other mechanical properties. The results show that the flow characteristics of amalgam, particularly as manifested by deformation at the loading points during testing, preclude accurate determination of the tensile or flexure strengths.

Trois alliages dentaires commerciaux ont été étudiés afin d'établir l'importance des propriétés de résistance à la traction et à la flexion de l'amalgame en relation avec ses autres propriétés mécaniques. Les résultats indiquent que les caractéristiques de fluage de l'amalgame, surtout celles qui se manifestent par la déformation aux points d'appui pendant l'expérience, empêchent la détermination exacte de la résistance à la traction ou à la flexion.

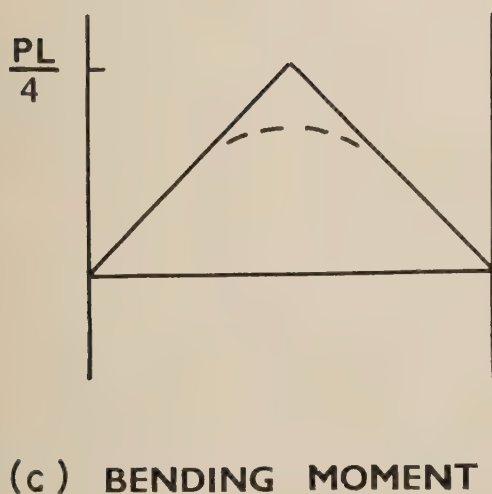
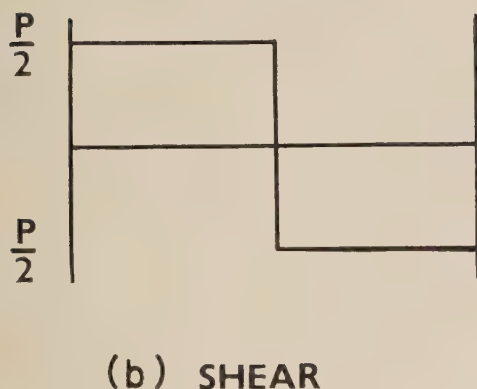
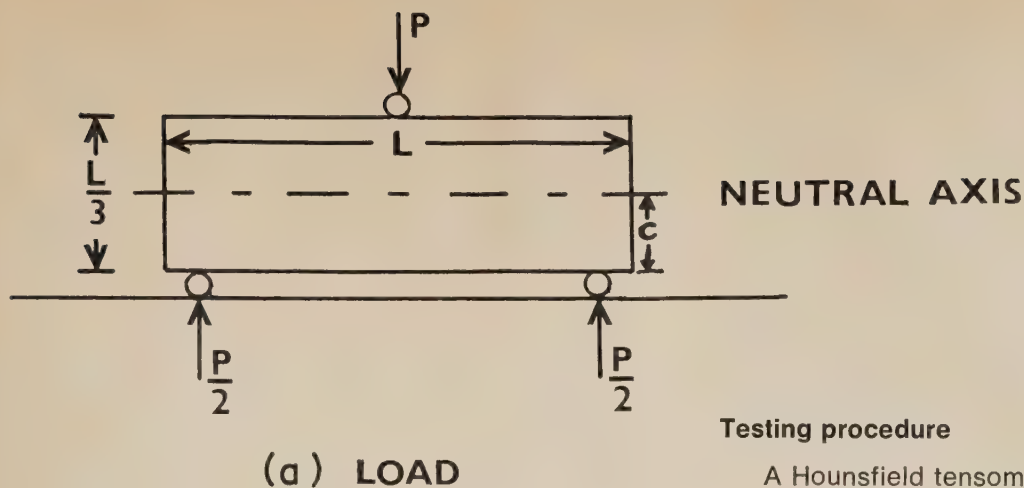


Fig 1 Load, shear and bending moment diagrams for the centre-point loading flexure test.

Testing procedure

A Hounsfield tensometer was used for the compressive strength determinations. Cylindrical specimens (4 mm diameter by 8 mm length) were loaded to failure at a strain rate of 1/128 inches per minute, and the compressive strength was computed using the original cross sectional area of the specimen.

The hardness values for the amalgam specimens were determined using a Leitz microhardness instrument. The Vickers pyramid hardness numbers were computed from measured indentation diagonals obtained for a 100 Gm load.

Flow tests were also performed on cylindrical (4 mm x 8 mm) samples, and the results reported represent the total flow for 21 hours. The flow test apparatus has been described elsewhere,⁴ and the flow tests were performed in accordance with American Dental Association specifications.⁵

The difficulties and associated errors encountered in tensile testing brittle materials warrant a more detailed description and discussion of the tensile test method used in this investigation.

Initially, we attempted to determine the tensile strength of amalgam using the diametral test method described by Sweeney and Burns,⁶ which was also used by Going et al in the study of pin reinforcement of amalgam. In this test a compressive load is applied diametrically along the specimen length, and failure occurs along the central longitudinal plane by tension. The tensile strength is calculated from the applied load and specimen dimensions using an equation which is based on the assumption of point loading. However, after some preliminary testing we concluded that the diametral test was unsuited for the determination of the tensile strength of amalgam, particularly because of the large amount of plastic deformation (flattening) that occurred in the test specimen prior to failure with the softer amalgams. The specimen deformation invalidates the assumption of point loading and introduces serious error into the calculations for tensile strength. Also, the tensile strength results for the harder and stronger (compressive strength) amalgams showed an unacceptably high scatter.

After further experiments with testing methods we decided to use the flexure test commonly applied for tensile testing brittle materials such as concrete or ceramic. The tensile strength obtained by this method is referred to as the flexure strength.

In the flexure test, a cylindrical specimen is positioned horizontally on two end supports, and a vertical load is applied either centrally (centre-point loading) or at two points symmetrically located along the specimen length (third-point loading).

The third-point loading test is preferable because a constant bending moment is produced for a considerable length of the specimen in the central region where no shear forces are present. Thus failure in the central region is due solely to the tensile stresses arising from the resulting bending moment. However, the load-applying and support blocks must be of sufficient size if significant penetration of the specimen at the bearing points is to be avoided.

In this investigation 3/32 inch diameter, hardened chrome steel rods were used for the load-applying and support blocks. Load bearing rods of this size made the third-point loading test impracticable, for to avoid any interference between the applied and reaction forces a specimen size considerably in excess of 4 mm diameter and 12 mm length is required (ASTM specifications).

It was not possible to condense samples larger than 4 mm diameter and 12 mm length adequately or consistently. Therefore the centre-point loading test was used for which the 4 mm x 12 mm specimen size was adequate and conformed to the ASTM specifications⁷ regarding the diameter to length ratio.

Figure 1 shows the load, shear and bending moment diagrams for the centre-point loading flexure test.⁸ The maximum bending moment (M) occurs at the specimen centre and is equal to $PL/4$, where P is the applied load in pounds and L the specimen length in inches. The flexure strength (σ) in psi is given by $\sigma = Mc/I$, where c is the distance from the neutral axis to the outer fibres in inches (Fig 1a). I represents the moment of inertia and is defined by $I = \pi d^4/64$, where d is the diameter of the specimen (L/3) in inches.

In calculating the bending moment, the moment arm was assumed constant, although few of the specimens failed directly at the central point.

It is difficult to determine the exact point of fracture initiation for brittle materials because of the devious fracture path. The relatively good reproducibility in the flexure strength results (Table 1) indicates that a constant moment arm is a good assumption.

The flexure strength tests were performed using an Instron testing machine at a loading rate of 1/200 inches per minute.

Results and discussion

The results of the tests are given in Table 1. The mean values for the compressive strength, hardness and flexure strength, and their respective standard deviations, are based on the results obtained for 10 specimens for each alloy. The compressive strength results show a statistical variation of only 1 per cent or less, while the hardness and flexure strength values show a statistical variation ranging from 10 to 20 per cent. This is to be expected, for flexure and hardness results are considerably more susceptible to variations in surface conditions and microstructure than compressive strength results. The flow results are averages based on three to five tests only. It was found that the flow results could be reproduced to within 15 per cent for the harder and compressively stronger amalgams (A and B), but to only approximately 35 per cent for the softer and compressively weaker alloy C.

Variation of test results with alloy type

Table 1

Alloy	Compressive strength (psi)	Vickers hardness	Flow %	Flexure strength (psi)
A	68,900±230	147±15	0.57±0.05	16,400±2,800
B	60,250±520	108±19	0.77±0.13	19,200±1,900
C	49,500±170	101±14	1.58±0.60	21,850±2,000

The results in Table 1 suggest a possible relationship between flexure strength and the other mechanical properties. Although the standard deviation for flexure strength overlaps between any two consecutive amalgams in the table, a definite trend is evident. Notably, the difference in flexure strengths for alloys A and C exceeds the standard deviation sums, so that the difference is statistically significant. Thus it is evident that an increase in the "apparent" flexure strength is related to a decrease in compressive strength and hardness and an increase in flow for the amalgam. This rather anomalous behaviour appears to be related to the plastic deformation that occurs during loading of the specimen, which we now consider in more detail.

It was indicated above that the diametral test results in a small but definite flattening of the specimen so that it changes from a cylindrical to an oval shape. On flattening of the specimen constraining forces develop at the surface, which are transmitted into the specimen counteracting the resolved tensile stresses that fail the specimen in tension. Consequently, a larger compressive load is required to overcome the surface constraints when flattening occurs, and this results in an apparent higher tensile strength. It is clear that the greater the flow or plastic deformation of the specimen during testing, the higher will be the "apparent" tensile strength. In the extreme case of excessive flattening of the specimen the diametral test becomes a test of compressive rather than tensile strength and the apparent tensile load becomes equal to the actual compressive load.

To determine the extent to which the specimens were plastically deformed before failing we loaded some of them diametrically to approximately 90 per cent of the fracture load and measured the dimensional changes. For alloy A, which shows the lowest flow and highest compressive strength, the decrease in diameter was approximately 0.25 per cent compared to 1.0 per cent for alloy C which has the lowest compressive strength and highest flow.

For the flexure tests it was observed that plastic deformation occurred at the loading points, the hardened chrome steel bearing rods penetrating into the specimen to varying depths. It was evident that the penetration at the loading points was considerably greater in specimens of alloy C than alloy A, again consistent with the much greater flow exhibited by alloy C. As in the diametral test the flow and deformation at the loading points will decrease the true tensile stresses at the point of fracture, with the result that a higher load is required to break the samples which again increases the "apparent" flexure strength.

In the flexure test, a change from point loading to one where the load is distributed over a finite length of the specimen will decrease the maximum bending

moment, as shown by the broken line in Fig 1c. For example, if the total load P is distributed evenly over the full length of the specimen (as a limiting case), the maximum bending moment becomes $PL/8$, that is one-half that for point loading ($PL/4$), and the tensile stress is correspondingly halved. Thus alloys showing higher flow will deform more at the loading points and show correspondingly higher "apparent" flexure or tensile strengths.

Conclusions

The results of this investigation show that the flow characteristics of amalgam preclude the determination of the true tensile or flexure strength, and that the present test methods give "apparent" tensile or flexure strength values which are flow dependent.

In this investigation the alloy showing the lowest compressive strength and hardness and the highest flow also showed the highest (apparent) flexure strength. The latter is not a true flexure strength but includes the effects of flow or plastic deformation occurring at the loading points during testing.

In both the diametral test and the flexure test, plastic deformation of the specimen decreases the actual tensile stresses, and accordingly a higher load must be applied for fracture, resulting in a higher "apparent" tensile or flexure strength.

The flexure test (centre-point loading) was found to be a more suitable test compared to the diametral tensile test, based on the precision of the results obtained.

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Mr. Turchyn is research assistant and Doctor Youdelis is professor of metallurgy in the Department of Engineering Materials, University of Windsor, Windsor, Ont.

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How Dentists Can Shave Water Damage Insurance Claims – A review of all claims reported during the past 12 months under the Canadian Dental Association's group liability (malpractice) coverage shows that losses caused by water damage are the most frequent, and may well prove to be the most expensive.

The principal cause of this problem is the failure of flexible couplings or valves within pedestals or other hydraulically equipped dental appliances overnight or during weekends, when the office is unattended. Though the actual waterflow may be small, it can be sufficient to cause serious damage for which the dentist may be responsible in premises adjacent to or below his own office. The associated damage to

rugs and equipment within the office, which is almost inevitable, has relatively minor monetary importance.

Such risks can be virtually eliminated if the lead to the equipment from the main water supply is turned off whenever the office is unattended. As an additional precaution, water loss hazards during office hours can be minimized if a pressure limiting valve is incorporated at or near the main take-off point.

Members are urged to take these simple precautions to minimize losses and with it the accompanying danger of increased insurance charges. – CDA Insurance and Investment Plans.

Les soins dentaires au Québec: Besoins dentaires en général; besoins dentaires des personnes de 18 ans et moins; conclusions

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D'après les renseignements accumulés auprès des patients qui ont participé à l'enquête, les auteurs ont compilé les besoins en obturations, extractions, couronnes, ponts, prothèses partielles et complètes, soins périodontaires, traitements de canaux, pulpotomies, appareils de maintien, malocclusion, l'absence de dents permanentes et le pourcentage de patients sans besoins dentaires. Les besoins dentaires des personnes de 18 ans et moins ont aussi été compilés au niveau des obturations extractions, malocclusion et des patients sans besoins dentaires. La nécessité des soins est à peu près semblable chez les deux sexes sauf que le sexe masculin requiert un plus grand nombre d'extractions et de prothèses complètes. La malocclusion devrait être corrigée chez le tiers des filles et le quart des garçons de moins de 15 ans qui ont été examinés. Les patients de 18 ans et moins nécessitaient en moyenne 5.9 obturations et 1.6 avulsions. Dans presque toutes les catégories, les besoins notés par les dentistes québécois sont deux fois plus élevés que ceux signalés par leurs confrères américains. Il faudrait donc, à l'avenir, user de prudence lorsque des extrapolations sont faites pour le Canada et le Québec à partir de données américaines.

This is the second of two articles on dental care needs in Quebec. The earlier report was published in July 1970. This article deals with the requirements for fillings, extractions, crowns, bridges, partial and complete dentures, periodontal treatment, root canal therapy, pulpotomy, space maintenance and malocclusion. Also considered are missing permanent teeth and patients who require no dental care. Treatment needs in men and women are fairly similar, but men need more tooth extractions and complete dentures. In the age group under 15, one-third of the girls and a quarter of the boys have malocclusion requiring treatment. Patients under the age of 18 need an average of 5.9 fillings and 1.6 tooth extractions. Treatment needs in almost every category are about twice as great as those reported for the American population.

Besoins dentaires en général

L'actuel chapitre traite des besoins dentaires des patients de tous âges signalés par les dentistes qui ont retourné les questionnaires.

Obturations—Le nombre d'obturations à faire est en moyenne de 5.1 tant chez le sexe masculin que chez le sexe féminin (Tableau 1). Il atteint un sommet de 8.1 chez les garçons de 15 à 19 ans et de 7.5 chez les filles du même âge. Et ce taux décroît graduellement pour la population plus âgée.

Pour les deux sexes, et à tous les âges, la quantité d'obturations à une face est nettement plus élevée que celle d'obturations à deux faces; il en est de même des obturations à deux par rapport à celles à trois faces. L'enquête américaine révèle le même phénomène.

Le graphique (Fig 1) démontre que l'état de santé dentaire nécessite un nombre à peu près égal d'obturations chez les deux sexes des divers groupes d'âge tant chez les Américains que chez les Canadiens du Québec. Cependant ce nombre est considérablement plus élevé chez ces derniers. La différence est déjà très marquée chez les enfants de moins de 15 ans et atteint un maximum chez les adolescents de 15 à 19 ans alors que le nombre d'obturations requises est deux fois plus grand chez les Canadiens du Québec. L'écart va s'amenuisant au fur et à mesure que les âges augmentent et la situation devient presque identique à compter de 45 ans.

Extractions—Le nombre moyen de dents nécessitant l'avulsion varie de 2.0 à 2.9 pour tous les groupes de 15 ans et plus chez la population masculine et de 0.6 à 1.7 pour la population féminine. Sauf pour les enfants de moins de 15 ans, le nombre d'extractions requises est plus élevé à tous les groupes d'âge chez le sexe masculin. Les moyennes sont respectivement de 2.1 et de 1.4 pour l'ensemble des patients et des patientes (Tableau 2; Fig 2, 3). Dans l'enquête américaine les moyennes sont inférieures, soit 1.0 et 0.8.

La carie demeure la principale cause d'extraction jusqu'à la catégorie de 35-44 ans pour le sexe féminin et de 45-54 ans pour le sexe masculin; la perte des dents est par la suite attribuable en majeure partie aux maladies périodontaires. Dans l'étude américaine, les périodontoclasies se révèlent le principal motif d'avulsion pour les deux sexes à compter du groupe d'âge de 40-44 ans.

Couronnes—Les besoins en couronnes augmentent de façon assez régulière avec l'âge chez les deux sexes.

Age	Sexe masculin				Sexe féminin			
	Nombre d'obturations				Nombre d'obturations			
	1 face	2 faces	3 faces	Total	1 face	2 faces	3 faces	Total
<15	2.60	1.43	0.35	4.38	3.27	1.60	0.27	5.14
15 - 19	5.14	2.25	0.67	8.06	4.28	2.54	0.72	7.54
20 - 24	3.75	2.28	1.43	7.46	3.36	2.16	0.74	6.26
25 - 34	2.70	1.72	0.43	4.85	2.37	1.54	0.76	4.67
35 - 44	2.00	1.35	0.30	3.65	1.96	1.45	0.43	3.84
45 - 54	1.08	0.62	0.25	1.95	1.21	0.69	0.29	2.19
55 - 64	1.19	0.46	0.00	1.65	0.80	0.63	0.39	1.82
> 64	0.36	0.14	0.00	0.50	2.50	0.83	0.58	3.91
Moyenne	2.92	1.61	0.55	5.08	2.84	1.69	0.54	5.07

Extractions

Tableau 2

Age	Sexe masculin					Sexe féminin				
	Nombre d'extractions					Nombre d'extractions				
	Carie	Inclusion	Malad. périod.	Autres raisons	Total	Carie	Inclusion	Malad. périod.	Autres raisons	Total
< 15	0.98	0.07	0.00	0.34	1.39	1.31	0.12	0.00	0.22	1.65
15 - 19	2.10	0.11	0.02	0.14	2.37	1.06	0.09	0.00	0.13	1.28
20 - 24	1.75	0.09	0.23	0.15	2.22	1.35	0.14	0.12	0.07	1.68
25 - 34	1.73	0.17	0.26	0.28	2.44	0.72	0.06	0.30	0.28	1.36
35 - 44	1.24	0.00	0.79	0.07	2.10	0.71	0.04	0.36	0.04	1.15
45 - 54	1.33	0.00	1.10	0.47	2.90	0.41	0.01	0.66	0.29	1.37
55 - 64	0.65	0.00	1.35	0.15	2.15	0.10	0.00	0.46	0.02	0.58
> 64	0.43	0.00	1.14	0.43	2.00	0.08	0.00	0.92	0.08	1.08
Moyenne	1.46	0.08	0.35	0.24	2.13	0.95	0.08	0.20	0.16	1.39

Couronnes, ponts, prothèses partielles

Tableau 3

Age	Sexe masculin							Sexe féminin						
	Nombre d'extractions							Nombre d'extractions						
	Couronnes	Ponts fixes*			Prothèses partielles*			Couronnes	Ponts fixes*			Prothèses partielles*		
	Moyenne	1er	2e	Total	1ere	2e	Total	Moyenne	1er	2e	Total	1ère	2e	Total
< 15	0.16	0.06	0.01	0.07	0.23	0.07	0.30	0.01	0.07	0.03	0.10	0.20	0.03	0.23
15-19	0.28	0.45	0.28	0.73	0.79	0.15	0.94	0.33	0.38	0.17	0.55	0.77	0.15	0.92
20-24	0.54	0.59	0.29	0.88	1.23	0.14	1.37	0.66	0.84	0.43	1.27	1.28	0.31	1.59
25-34	0.62	0.65	0.37	1.02	1.10	0.22	1.32	0.76	0.53	0.30	0.83	1.50	0.40	1.90
35-44	0.65	0.66	0.34	1.00	1.71	0.53	2.24	1.17	0.70	0.38	1.08	1.95	0.62	2.57
45-54	0.83	0.48	0.13	0.61	2.13	0.68	2.81	0.83	0.43	0.16	0.59	2.13	0.69	2.82
55-64	1.88	0.50	0.42	0.92	1.81	0.65	2.46	1.24	0.29	0.27	0.56	1.39	0.73	2.12
> 64	0.36	0.07	0.07	0.14	2.79	1.21	4.00	0.83	0.17	0.00	0.17	3.17	2.25	5.42
Moyenne	0.50	0.44	0.23	0.67	1.08	0.27	1.35	0.58	0.45	0.23	0.68	1.17	0.35	1.52

*Pour les ponts et les prothèses, il s'agit du nombre de dents à remplacer.

Ils sont en moyenne de 0.5 unité chez les hommes et de 0.6 chez les femmes (Tableau 3).

Les données de l'étude américaine présentent la même tendance. Les valeurs moyennes sont cependant deux fois moindres.

Ponts—Le nombre de dents à remplacer par un premier ou un deuxième pont fixe est semblable pour les deux sexes (Tableau 3). On a fait la même constatation dans l'enquête américaine. Les soins à prodiguer aux Québécois dans ce domaine sont cependant au delà de deux fois supérieurs à ceux jugés nécessaires par les dentistes américains.

Prothèses partielles—Le besoin en prothèses partielles s'élève avec l'âge. Il est un peu plus marqué chez le sexe féminin que chez le sexe masculin et se traduit respectivement par 1.5 et 1.4 dent à remplacer en moyenne (Tableau 3).

Encore là les dentistes québécois ont indiqué que les traitements à dispenser étaient au delà de 100 p.c. plus nombreux que ceux recommandés par leurs confrères américains.

Prothèses complètes—Les besoins en prothèse complète sont très grands. La confection d'un appareil est jugée nécessaire pour 6.5 p.c. des adolescents de

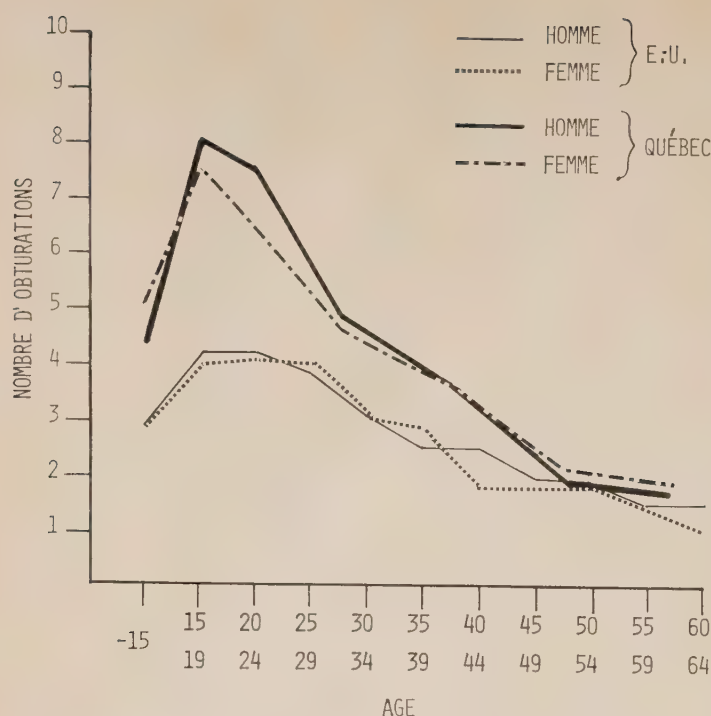


Fig 1 Nombre d'obturations suivant le sexe aux Etats-Unis et au Canada.

15 à 19 ans et 4 p.c. des adolescentes du même âge. Dans l'ensemble 14 p.c. des hommes et 11 p.c. des femmes doivent recourir à la confection ou à la réfection d'une ou de deux prothèses complètes (Tableau 4). Il est à remarquer que ces pourcentages n'englobent pas les patients édentés déjà pourvus de prothèses fonctionnelles.

Pour cette catégorie de soins, les dentistes québécois mettent en évidence des besoins deux fois plus grands que leurs homologues américains.

Troubles périodentaires—Les anomalies périodentaires vont en progressant avec l'âge (Tableau 4). Elles sont légèrement plus fréquentes chez le sexe masculin que chez le sexe féminin. L'étude américaine révèle une prévalence comparable entre les deux sexes, mais d'environ 50 p.c. moindre que l'enquête québécoise.

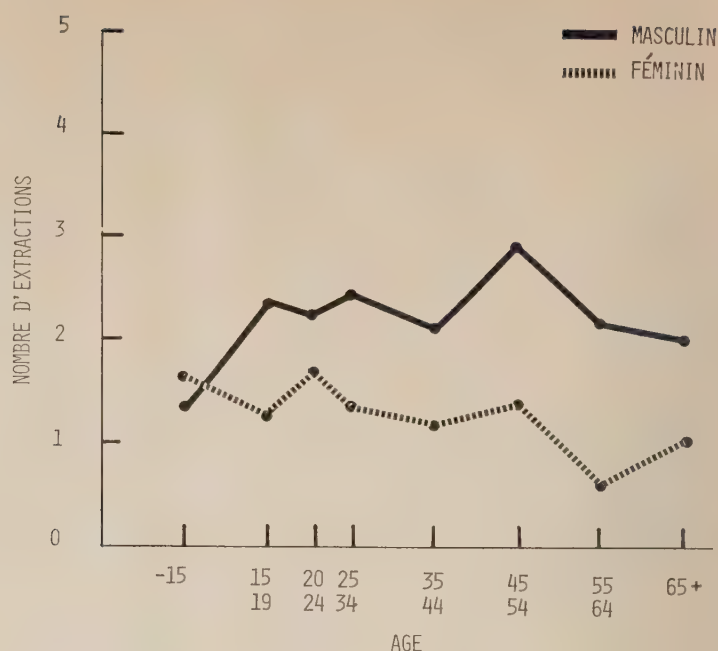


Fig 2 Nombre d'extractions suivant le sexe.

Traitements de canaux, pulpotomies, appareils de maintien—Les données recueillies pour ces catégories de traitements élaborés (Tableau 4, 5) sont faibles en nombre et ne se prêtent guère aux commentaires, si ce n'est que les besoins ne varient pas d'un sexe à l'autre et se situent à des niveaux deux fois plus élevés que dans l'étude américaine.

Malocclusion—Les dentistes ont posé le diagnostic de malocclusion chez 38.7 p.c. des garçons et 57.5 p.c. des filles de 19 ans et moins (Tableau 5). L'explication de cet écart prononcé réside peut-être dans le fait que les dentistes ont attaché plus d'importance à la correction de la mauvaise position des dents chez le sexe féminin en fonction de l'esthétique.

La moyenne globale de patients atteints de malocclusion est de 18.4 p.c. pour le sexe masculin et de

Prothèses complètes, troubles périodentaires, traitements de canaux, pulpotomie

Tableau 4

Age	Sexe masculin					Sexe féminin				
	Prothèses complètes		Troubles périodentaires*	Traitements de canaux*	Pulpotomie*	Prothèses complètes		Troubles périodentaires*	Traitements de canaux*	Pulpotomie*
	1 %H	2 %H				1 %H	2 %H			
<15	1.70	0.00	0.15	0.09	0.12	0.48	0.00	0.13	0.07	0.12
15-19	6.50	2.44	0.89	0.09	0.03	3.97	0.66	0.54	0.13	0.03
20-24	11.71	2.70	1.65	0.14	0.02	9.72	2.08	1.13	0.18	0.00
25-34	12.32	7.25	3.04	0.17	0.02	13.50	3.07	2.31	0.20	0.00
35-44	11.46	8.33	2.53	0.13	0.00	7.38	4.10	3.57	0.21	0.00
45-54	10.00	11.67	3.22	0.13	0.02	15.71	11.43	2.96	0.14	0.00
55-64	15.38	7.69	3.81	0.12	0.00	7.32	24.39	3.05	0.20	0.00
> 64	21.43	42.86	0.93	0.00	0.00	—	33.33	2.83	0.08	0.00
Moyenne	8.74	5.24	1.73	0.12	0.04	7.23	3.94	1.59	0.15	0.03

*Pour les troubles périodentaires, les traitements de canaux, les pulpotomies, il s'agit du nombre de dents impliquées.

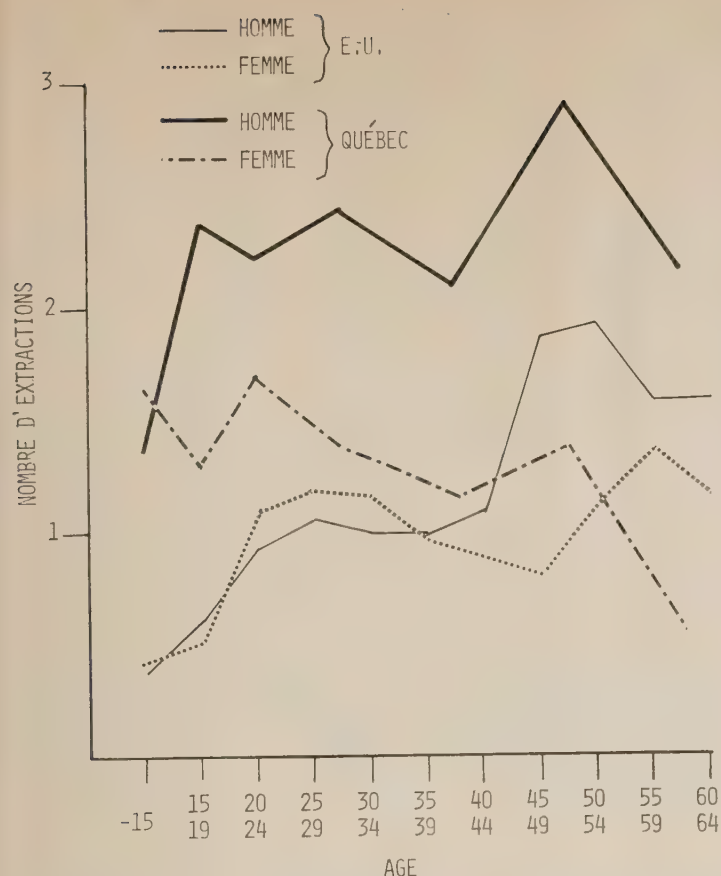


Fig 3 Nombre d'extractions suivant le sexe aux Etats-Unis et au Canada.

19.4 p.c. pour le sexe féminin alors que dans l'étude américaine elle était de 8.3 p.c. pour les deux sexes.

Absence de dents permanentes—On note que l'absence de dents permanentes (qu'elles aient été remplacées ou non) s'élève avec l'âge. Elle est en moyenne de 5.2 pour les hommes et de 6.2 pour les femmes (Tableau 5); dans l'étude américaine, elle s'élève à 3.5 et 3.6 respectivement.

C'est dans la Gaspésie, suivie de la région de Québec, que les patients examinés démontrent la plus grande absence de dents (Tableau 6). Sous cet aspect, la région de Montréal-Métropolitain accuse une fois de plus la position la plus favorable.

Les patients d'origine française ont en moyenne tout près de cinq dents absentes alors que ce nombre est de 2.9 pour les Canadiens anglais et de 2.5 pour les patients d'origines diverses (Tableau 7, Fig 4). La situation est donc à peu près semblable chez ces deux derniers groupes.

Patients sans besoins dentaires—Rares sont les patients qui rendent visite à leur dentiste sans que leur état de santé dentaire ne nécessite de soins, et ce, à tous les groupes d'âge. En moyenne seulement 4 p.c. des sujets masculins et 3 p.c. des sujets féminins étaient dans cette situation (Tableau 8, Fig 5). La proportion est beaucoup plus forte chez les Américains: soit, dans le même ordre, de 19.9 et 19.6 p.c. Cette différence prononcée peut être attribuable à une fréquentation plus assidue des cabinets dentaires ainsi qu'à une plus grande extension de la fluoruration des eaux de consommation aux Etats-Unis.

On a aussi tenu compte dans cette étude de la répartition des patients sans besoins dentaires suivant l'âge et les régions (Tableau 9). L'échantillonnage ne fournit cependant pas assez de données pour chacun des groupes d'âge. Si l'on considère globalement

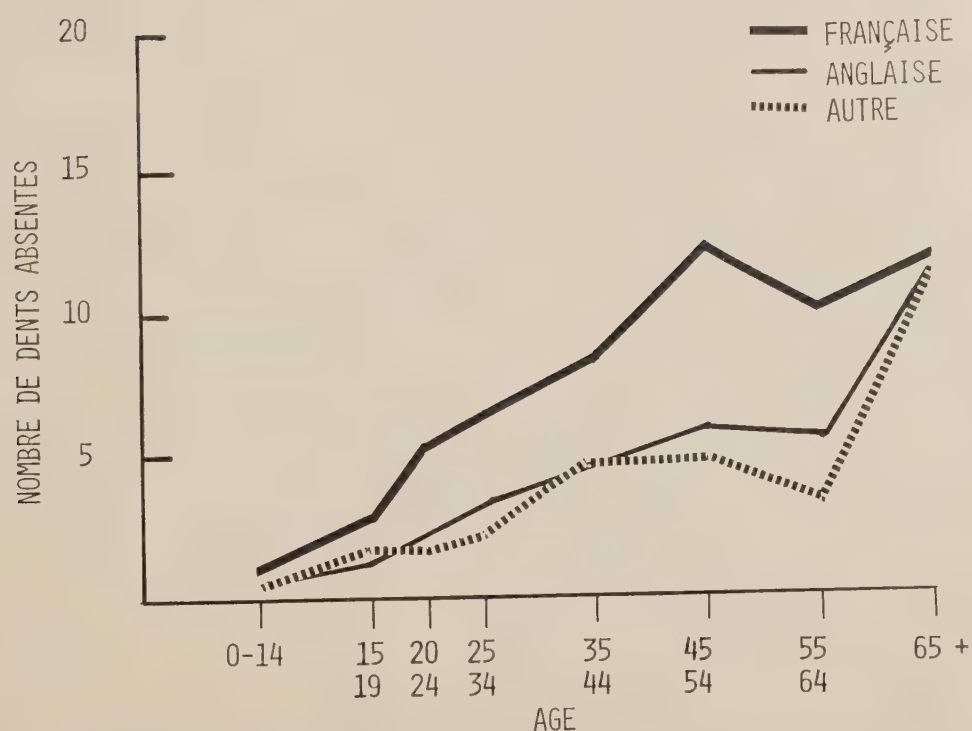


Fig 4 Nombre de dents absentes suivant l'âge et l'origine ethnique.

Age	Sexe masculin					Sexe féminin				
	Appareils de maintien	Correction des malocclusions	Dents permanentes manquantes*	Dents permanentes préalablement remplacées	Total des deux dernières colonnes	Appareils de maintien	Correction de malocclusion	Dents permanentes manquantes*	Dents permanentes préalablement remplacées	Total des deux dernières colonnes
	Nombre	%H	Nombre	Nombre		Nombre	%H	Nombre	Nombre	
—15	0.20	25.71	0.63	0.01	0.64	0.24	34.29	0.98	0.05	1.03
15-19	0.01	13.01	2.21	0.24	2.45	0.02	23.18	2.25	0.13	2.38
20-24	0.02	18.02	3.77	1.60	5.37	0.01	11.81	4.44	1.48	5.92
25-34	0.00	20.59	4.28	1.81	6.09	0.02	16.67	5.27	2.24	7.51
35-44	0.01	10.42	6.38	2.34	8.72	0.00	12.30	6.46	2.55	9.01
45-54	0.02	15.00	7.57	3.58	11.15	0.00	10.00	10.00	6.17	16.17
55-64	0.00	19.23	6.65	2.42	9.07	0.00	9.76	8.24	5.54	13.78
> 64	0.00	21.43	14.93	6.57	21.50	0.00	0.00	7.75	7.08	14.83
Moyenne	0.06	18.35	3.82	1.41	5.23	0.06	19.41	4.43	1.82	6.16

*A l'exception des 3 ièmes molaires.

Nombre de dents permanentes absentes suivant les régions

Tableau 6

Régions	Nombre moyen
Gaspésie	6.09
Saguenay-Lac-St-Jean	3.82
Québec	5.42
Trois-Rivières	4.92
Cantons-de-l'Est	5.25
Montréal	3.86
Montréal-Métropolitain	3.54
Hull-Laurentides	4.23
Abitibi-Témiscamingue	4.62

chaque région, on réalise que l'état de tous les patients de la Gaspésie ainsi que de Hull et des Laurentides requiert les soins du dentiste. Ce sont les régions de Québec, Trois-Rivières, Montréal et surtout celle du Montréal-Métropolitain qui sont dans la situation la moins déplorable.

Besoins dentaires des personnes de 18 ans et moins

L'enquête englobe 592 patients de 18 ans et moins. L'échantillonnage des personnes d'origine diverse est

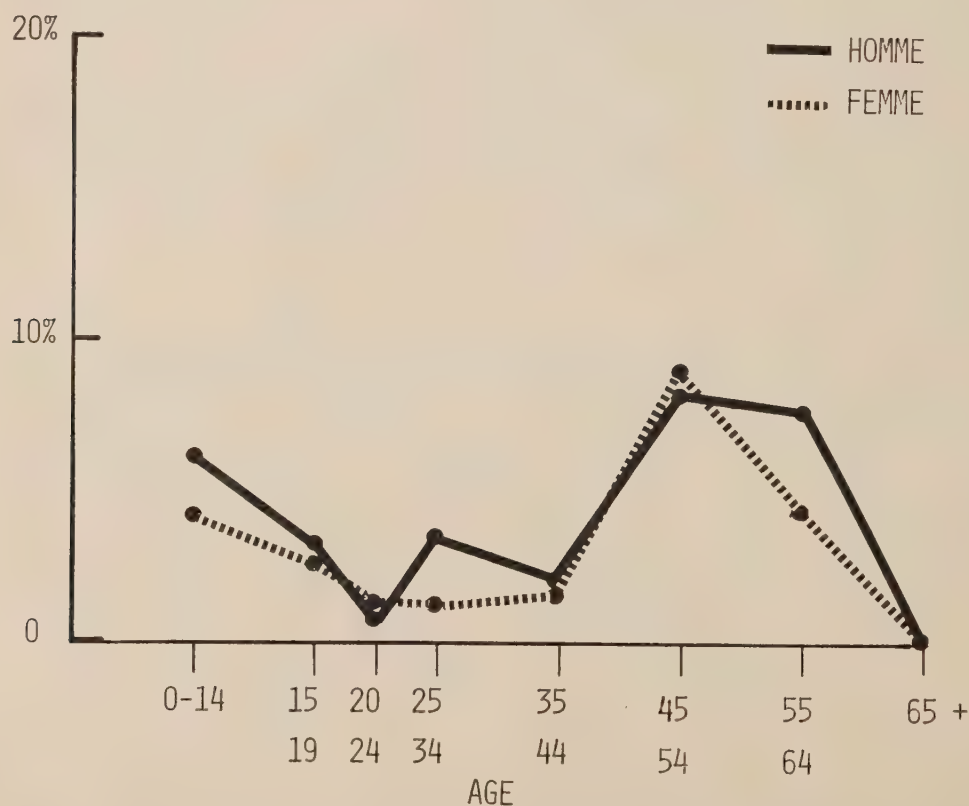


Fig 5 Distribution des patients sans besoins dentaires suivant le sexe et l'âge.

Nombre de dents permanentes absentes suivant l'âge et l'origine ethnique Tableau 7

Age	Origine ethnique		
	Française	Anglaise	Autre
<15	1.17	0.32	0.18
15-19	2.50	1.13	1.73
20-24	5.02	2.00	1.66
25-34	6.30	3.07	2.03
35-44	8.28	4.58	4.63
45-54	12.34	5.81	4.70
55-64	10.90	5.48	3.27
>64	11.71	11.38	11.50
Moyenne	4.92	2.88	2.53

Distribution des patients sans besoins dentaires suivant le sexe et l'âge

Tableau 8

Age	Sexe masculin			Sexe féminin		
	Nombre total	Sans besoins	%	Nombre total	Sans besoins	%
<15	176	11	6.25	210	9	4.28
15-19	123	4	3.25	151	4	2.64
20-24	111	1	0.90	144	2	1.38
25-34	138	5	3.62	163	2	1.22
35-44	96	2	2.08	122	2	1.63
45-54	60	5	8.33	66	6	9.09
55-64	26	2	7.69	45	2	4.44
>64	14	0	0.00	12	0	0.00
	744	30	4.03	913	27	2.96

faible (53) et doit prêter à caution (Tableau 10). Celui des patients d'origine anglaise et française est forcément plus élevé et, de ce fait, plus représentatif.

Obturations—Les dents des enfants de trois à quatre ans nécessitent en moyenne 4.9 obturations. Le nombre décline jusqu'à 3.2 pour ceux de neuf et 10 ans et remonte graduellement jusqu'à 8.4 chez les adolescents de 17 et 18 ans (Tableau 11). Pour les mêmes conditions d'âge, l'enquête américaine révèle des besoins deux fois inférieurs.

Le nombre moyen d'obturations à pratiquer chez les patients d'origine française est de 6.5; chez ceux d'origine anglaise 4.8 et chez les autres 4.5 (Tableau 12, Fig 6).

Extractions—Le nombre de dents sujettes à l'extraction reste constant de cinq à 18 ans et est en moyenne de 1.6 pour l'ensemble du groupe (Tableau 11), soit environ le triple des besoins constatés dans l'enquête américaine.

Les avulsions requises sont de 2.1 pour les patients d'origine française, de 0.7 pour ceux d'extraction anglaise et de 0.5 pour ceux d'origine diverse (Tableau 12, Fig 7).

Malocclusion—Plus du quart des patients examinés souffraient de malocclusion. Le pourcentage de 14.3 pour les enfants de trois et quatre ans augmente graduellement jusqu'à 49.4 pour ceux de 11 et 12 ans et baisse par la suite jusqu'à 17.8 pour la classe de 17 et 18 ans (Tableau 11). Il est à noter que les dentistes américains avaient indiqué des anomalies du mêmes ordre deux fois moins prononcées.

Personnes sans besoins dentaires suivant les régions

Tableau 9

Régions	%
Gaspésie	0.00
Saguenay-Lac-St-Jean	1.38
Québec	3.50
Trois-Rivières	3.80
Cantons-de-l'Est	1.85
Montréal	3.70
Montréal-Métropolitain	4.19
Hull-Laurentides	0.00
Abitibi-Témiscamingue	2.56

Patients sans besoins dentaires—Étaient sans besoins dentaires 4.2 p.c. des personnes de trois à 18 ans qui se sont prêtées à l'examen (Tableau 11). Seulement 1.2 p.c. des enfants canadiens-français n'ont pas eu à recevoir de traitement alors que cette proportion était de l'ordre de 10 p.c. chez les autres (Tableau 12). L'étude américaine révélait une proportion considérablement plus grande de jeunes patients exempts de maladies dentaires.

Conclusions

On ne saurait reprendre, pour en faire un résumé, les nombreux commentaires qui ont été faits tout au long de ce rapport. Il se dégage cependant plusieurs conclusions qu'il vaut entre autres la peine de souligner:

1. Pour une région déterminée, le recours aux soins du dentiste est proportionnel au nombre de dentistes établis dans ce même territoire, tel que le démontrent clairement les données recueillies dans le Montréal-Métropolitain.

2. Les patients du sexe féminin représentent 55.1 p.c. de l'ensemble des personnes comprises dans l'enquête. Le choix du temps recommandé pour remplir les questionnaires — soit à compter du mardi qui suivait leur réception — explique peut-être en partie cette prédominance. Par ailleurs, on ne constate pas de différence très marquée chez les deux sexes relativement au temps écoulé depuis la dernière visite chez le dentiste: 50.7 p.c. des patients de sexe masculin et 56 p.c. de sexe féminin s'étaient rendus chez le dentiste depuis un an ou moins.

3. Suivant la tendance manifestée dans de nombreuses autres enquêtes, le recours aux soins du dentiste est directement proportionnel au revenu et au degré de scolarité.

4. La proportion de patients dont l'état ne requiert pas de traitements est très basse puisqu'elle est respectivement de 3 p.c. pour les hommes et de 4 p.c. pour les femmes. Ce sont les régions de Québec, Trois-Rivières, Montréal et surtout du Montréal-Métropolitain qui occupent en ce domaine la position la moins déplorable.

5. Les besoins dentaires sont à peu près semblables chez les deux sexes. On observe une exception toutefois pour les extractions et les prothèses complètes

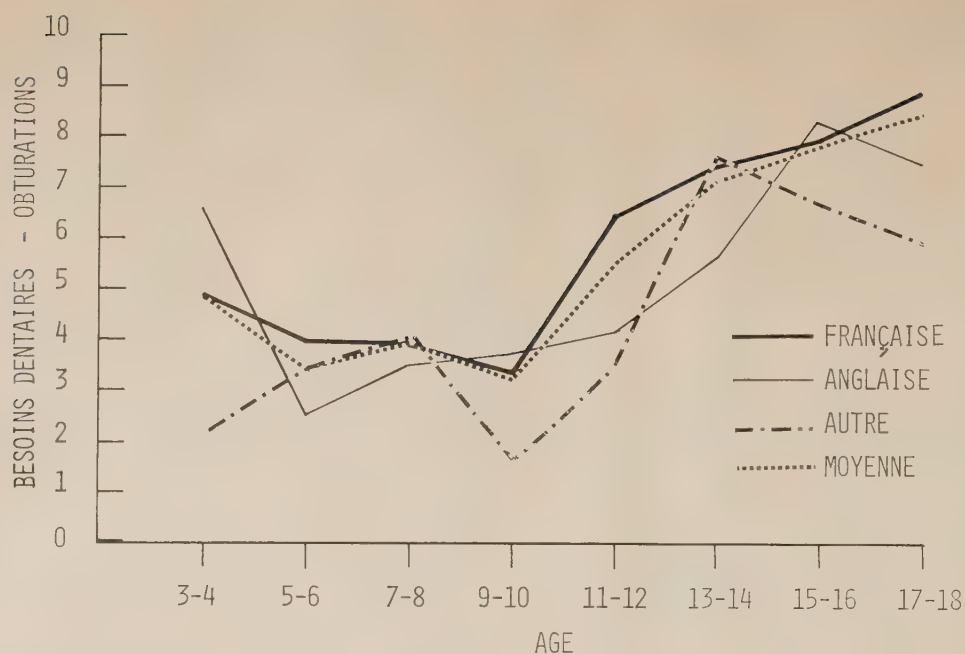


Fig 6 Besoins dentaires des personnes âgées de trois à 18 ans suivant l'origine ethnique—obturations.

alors que les soins requis sont sensiblement plus élevés chez le sexe masculin.

6. Une correction de malocclusion serait nécessaire chez le tiers des filles et le quart des garçons de moins de 15 ans.

7. L'état de santé dentaire n'appelle pas d'intervention chez seulement 4.2 p.c. des 592 patients de 18 ans et moins. Par contre l'ensemble de cette même population devrait recourir en moyenne à 5.9 obturations et 1.6 avulsion.

8. Les besoins dentaires des Québécois d'expression française sont plus grands que ceux d'origine anglaise ou diverse. Cette situation s'explique par un plus grand recours aux traitements du dentiste de la part de ces derniers. On ne saurait conclure que le seul facteur ethnique entre en ligne de compte. En effet les Québécois d'extraction anglaise ou diverse habitent en presque totalité les grands centres, surtout le Montréal-Métropolitain, qui est la région la mieux desservie au point de vue du nombre de dentistes, partant où il est plus facile de se faire traiter.

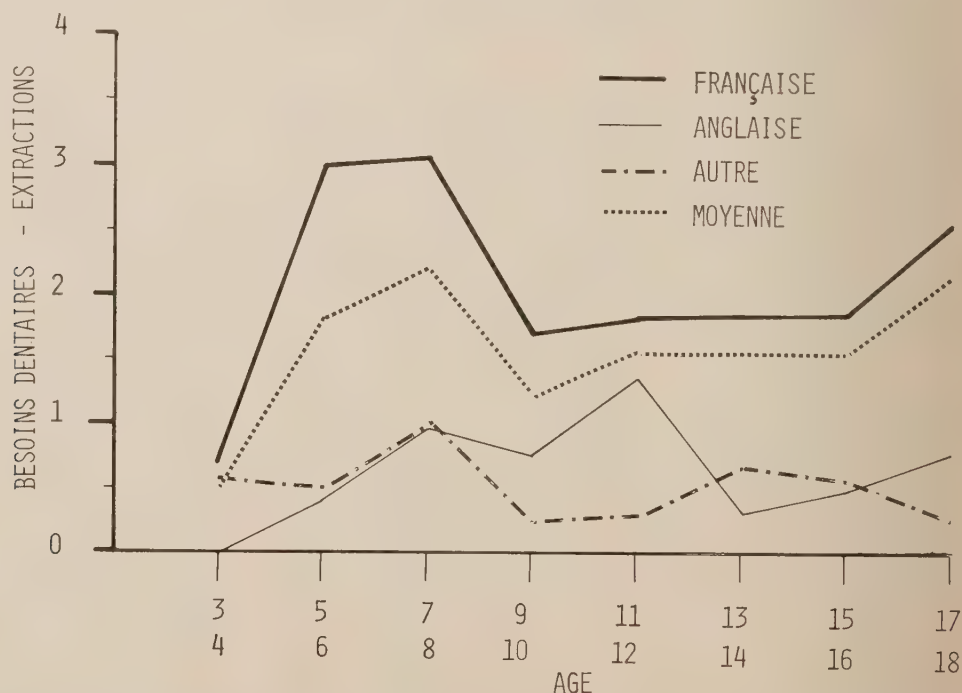


Fig 7 Besoins dentaires des personnes âgées de trois à 18 ans suivant l'origine ethnique—extractions.

Distribution des 592 patients âgés de trois à 18 ans suivant l'origine ethnique **Tableau 10**

Age	Origine ethnique		
	Française	Anglaise	Autre
3-4	20	9	6
5-6	30	20	2
7-8	38	21	4
9-10	39	22	9
11-12	49	22	7
13-14	68	13	6
15-16	80	15	11
17-18	80	13	8
Total	404	135	53

Besoins dentaires des personnes âgées de trois à 18 ans **Tableau 11**

Age	Nombre	Obturations	Extractions	Correction de malocclusion	Sans besoins
		Nombre moyen	Nombre moyen	%H	%H
3-4	35	4.86	0.51	14.29	8.57
5-6	52	3.38	1.85	18.87	11.32
7-8	63	3.76	2.21	28.57	1.59
9-10	70	3.20	1.20	32.86	7.14
11-12	78	5.46	1.54	49.35	5.13
13-14	87	7.06	1.52	26.44	1.15
15-16	106	7.73	1.52	18.87	2.83
17-18	101	8.38	2.13	17.82	1.98
	592	5.93	1.63	26.18	4.22

Besoins dentaires des personnes âgées de trois à 18 ans suivant l'origine ethnique **Tableau 12**

Age	Obturations			Extractions			Sans besoins		
	Française	Anglaise	Autre	Française	Anglaise	Autre	Française	Anglaise	Autre
	Nombre	Nombre	Nombre	Nombre	Nombre	Nombre	%	%	%
3-4	4.90	6.56	2.17	0.70	0.00	0.67	0.00	11.11	33.33
5-6	3.93	2.50	3.50	2.97	0.40	0.50	3.33	25.00	0.00
7-8	3.92	3.43	4.00	3.03	0.95	1.00	0.00	0.00	25.00
9-10	3.30	3.64	1.67	1.67	0.77	0.22	2.56	13.64	11.11
10-12	6.36	4.09	3.43	1.80	1.36	0.29	0.00	18.18	0.00
13-14	7.30	5.53	7.50	1.82	0.31	0.67	1.47	0.00	0.00
15-16	7.80	8.13	6.64	1.85	0.47	0.55	0.00	13.33	9.09
17-18	8.79	7.38	5.88	2.54	0.77	0.25	2.50	0.00	0.00
Moyenne	6.51	4.75	4.53	2.09	0.71	0.47	1.24	11.11	9.43

9. Tout au long de ce rapport, des comparaisons ont été établies avec les résultats obtenus dans une enquête américaine similaire. Dans la presque totalité des catégories de soins, les besoins notés par les dentistes québécois sont deux fois plus élevés que ceux signalés par leurs confrères américains. La différence est majeure. Comme il y a souvent tendance à faire des extrapolations pour le Canada et le Québec à partir de données américaines, il y aurait donc lieu à l'avenir d'user de prudence dans ce genre de rapprochement.

10. Cette étude fait état des besoins dentaires tels que vus par les dentistes qui ont participé à l'enquête; et ce sont là les besoins des personnes qui se sont présentées chez le dentiste.

Il est manifeste que, si l'on voulait connaître d'une façon absolument précise l'indice de santé dentaire de la population québécoise, il faudrait recourir à une

enquête directe auprès de la population.

Il n'en reste pas moins que, grâce à la précieuse collaboration des dentistes du Québec, ce sondage fournit une foule de renseignements sur le comportement de la population en matière de santé dentaire et sur la nature et la quantité des traitements à dispenser. Nombre de ces informations étaient soupçonnées et même connues de la profession, mais d'une façon empirique. Cette enquête aura apporté des données plus précises.

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Modernizing an old-fashioned dental chair

T. K. Cragg, DDS
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Doctor Cragg shows how an old-fashioned dental chair can be readily transformed into a modern lounge chair at relatively little cost. By adding a few other items of equipment, a dentist can then experiment with four-handed sit-down dentistry before purchasing entirely new equipment.

Le Dr Cragg explique comment transformer, à peu de frais, un fauteuil dentaire ancien en fauteuil moderne. L'addition de quelques pièces supplémentaires permet au dentiste de faire l'essai du travail à quatre mains en position assise, avant de faire l'achat d'une toute nouvelle installation.



Fig 1 EMC dental chair.



Fig 2 Seat, foot rest, back rest, head rest, arm rests and right arm removed from dental chair.

This article describes how a dentist who practises with outmoded equipment can modernize an old-fashioned dental chair at minimal cost. This transformation was developed by dentists to ensure comfort for the practitioner, his assistant, as well as the patient.

A console on the left arm of the chair holds the two handpieces, air and water springs and evacuation system. The controls are mounted under the chair. The result is a self-contained unit that permits the dentist to try out four-handed sit-down dentistry with a minimal financial outlay. Later he may choose to purchase a motorized chair of similar design and with a similar control system, but before going to this expense he will have had a chance to experiment and make his own modifications.

Materials

The required materials consist of:

- an old EMC dental chair
- a sheet of $\frac{3}{4}$ inch plywood (48 x 48 inches)
- some $\frac{1}{4}$ inch plywood (18 x 18 inches)

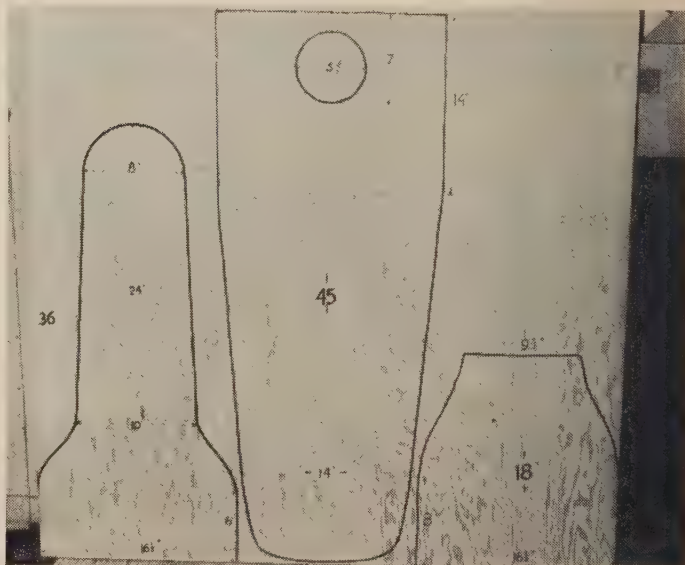


Fig 3 Forms outlined on sheet of three-quarter inch plywood.

- 12 feet of 2 x 3 inch lumber
- an iron rod (½ inch diameter, 22 inches long)
- three pillow butts with ½ inch holes
- two collars with ½ inch holes
- one sheet of ½ inch plexiglas (12 x 7 inches)
- a sabre saw, an electric hand drill, assorted hand tools and plenty of clamps.

Directions

1. Remove the seat, foot rest, back rest, head rest and right arm of the chair. Remove the black arm rests keeping only the one from the right arm. This will later be reversed and put on the left arm. Keep the metal backing temporarily (Fig 1, 2).

2. Outline on the ¾ inch plywood the three sections shown in Figure 3. Use the metal backing to outline the foot of chair and then discard it.

3. Cut out the forms with a sabre saw.

4. Glue the two back portions together with the shorter piece on the inside. Round the back, with a chisel or plane, at the lower right and left edges to clear the metal supports of the chair (Fig 4).

5. Draw a line three-quarters of an inch from the lower inside edge. This delineates the lower edge of the pillow butts. Later, a ¾ inch piece of plywood is fitted here. Put the iron rod through the pillow butts and drill holes to set the pillow butts 3 inches from both edges. Bolt them into place with ¾ inch stove bolts (Fig 5, 6).

6. Cut two pieces of 2 x 3 inch lumber (13 inches long). Cut away 1½ inches diagonally from one end at an angle of 45 degrees. Measure four inches from the cut end and mark off three-quarters of an inch at the opposite end. Draw a line between the two marks and cut off (Fig 7A). Save the resultant wedges.

7. Glue the two pieces on both sides of the back. The two wedges are fitted mesially at the top and the inside border is trimmed to follow the outline of the plywood backing (Fig 7B). The surplus on the outside is chiselled away to follow the contour.

8. Cut a piece of ¾ inch plywood 11¼ inches wide and long enough to fit accurately between the sides of the back. Glue this to the bottom edge.

9. Glue a piece of ¾ inch half round moulding at the top of the inner plywood back.

10. Drill a ¾ inch hole through each of the 2 x 3 inch sides to centre on the iron rod.

11. Cut two more pieces of 2 x 3 inch lumber to fit the length of the sides of the seat section. Measure 10 inches from one end and mark off one inch down the end. Draw a line between the two marks and cut off wedge. Next, measure 15 inches from the opposite end and mark off three-quarters of an inch down that end. Join the two marks and cut off wedge.

12. Place a piece of ¼ inch plywood over the foot 15 inches from the end and trace around the ¾ inch plywood to mark a duplicate. Cut out with a sabre saw.

13. Clamp the 2 x 3 inch sides onto the seat section. They will project beyond the sides of seat. Mark, remove and cut off both these wedges. Keep the wedges.

14. Glue the sides to the base. Glue the ¼ inch plywood foot rest on top of the sides. Glue the wedges in reverse position on the seat sides (Fig 8).

15. Plane the sides of the 2 x 3 inch pieces at the foot to follow the contour of the plywood.

16. Clamp the seat section to the EMC chair and then drill four holes through the holes which hold the foot rest. These holes will take four 4 inch carriage bolts after the upholstery is finished and should be slightly smaller than the diameter of the carriage bolts.

Fig 4 Two forms for the back section glued together.

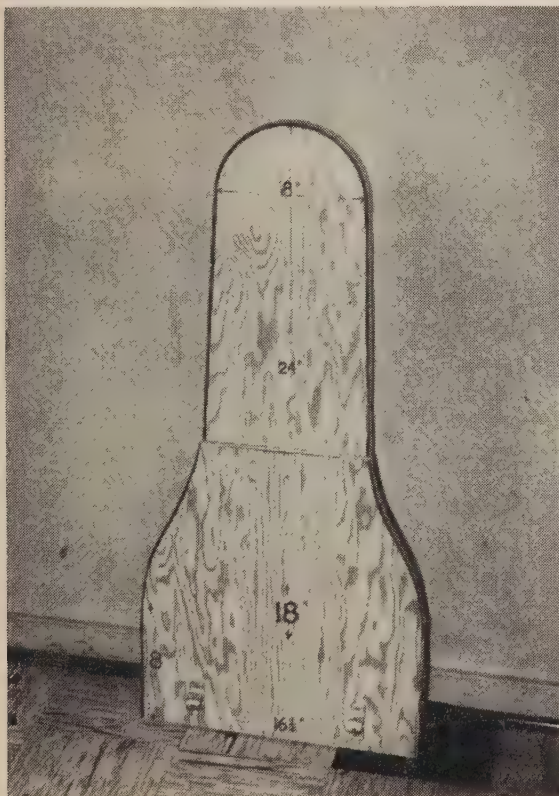


Fig 5 Two pillow butts, two collars and iron bar lined up as a hinge.



17. Cover the chair with heavy rubberized webbing as shown in Figures 9 and 10. The final upholstery is done by a commercial upholsterer.

Finished assembly

The console is made from a piece of $\frac{1}{2}$ inch plexiglas (12 x 7 inches). The right arm rest is reversed and fitted to the left arm support with the plexiglas belted underneath.

Fig 6 Collar on pillow butt.

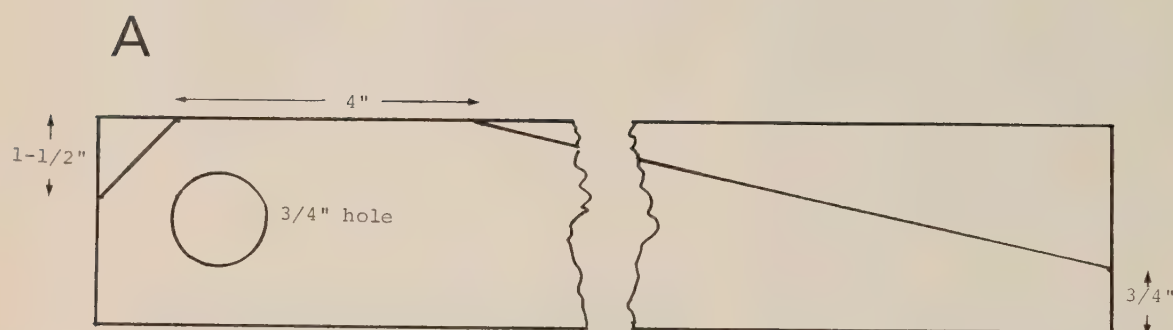


Fig 7 A B

Fig 8 Base section with set sides and footrest form attached.



Fig 9 Seat section covered with rubberized webbing.

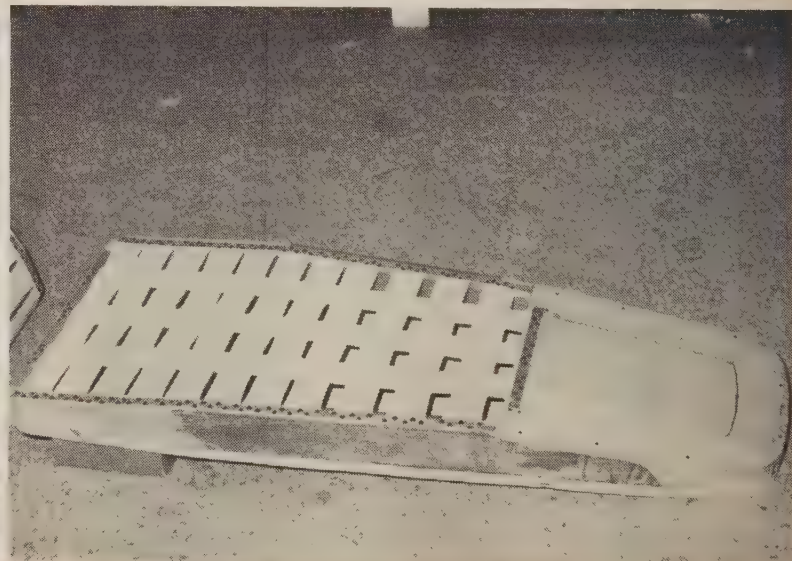




Fig 10 Back and base sections.

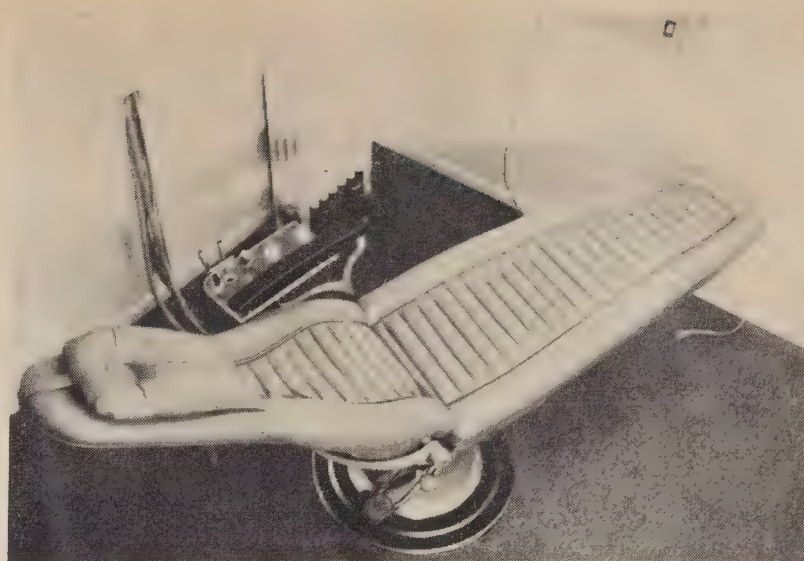


Fig 11 Finished upholstered chair.

The console holds the evacuation system, air and water syringe and supports for the high and slow speed handpieces.

The rubber tubing of the evacuation system tends to buckle when the latter is under the chair. This problem is eliminated by fitting a small cabinet on the wall. This contains the evacuation unit and a connection for the air and water syringe (Fig 11).

The control box for the handpieces is bolted under the chair.

A small mobile cabinet is behind the chair on the assistant's side. We made our own, but they can be purchased.

Operating stools for the dentist and his assistant are placed on either side. Since the assistant's stool is higher, a stainless steel ring can be fitted to the base to act as a foot rest. We use inexpensive "Jet-adjust" office chairs made in Japan and distributed by Hughes-Owens (Fig 12, 13).

Wall to wall carpeting gives the room a warm look and markedly reduces noise. We discarded our former dental unit. The connections were boxed in and covered by the carpet.

The operating light, not shown, is a Pelton and Crane ceiling mounted model on a track.

Summary

A simple method of reconditioning an old dental chair and modernizing an operating room has been described. This enables the dentist to practise four-handed sit-down dentistry at minimal cost.

Doctor Cragg's address is 39 McKenzie St, New Westminster, BC.

Fig 12



Fig 13



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